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# The Goulstonian Lectures

ON

# THE SENSIBILITY OF THE ALIMENTARY CANAL IN HEALTH AND DISEASE.

*Delivered at the Royal College of Physicians of London on March 14th, 16th, and 21st, 1911,*

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## LECTURE III.[1]

*Delivered on March 21st.*

### VI. PAIN (*continued*).

#### (*a*) *Œsophageal Pain.*

MR. PRESIDENT AND GENTLEMEN,—Rapid inflation of the balloon, used in the experiments on the sensation of fulness, produced in the œsophagus a sensation of pain, which was slowly replaced by a sensation of fulness without any accompanying fall in pressure. It is impossible to draw a definite line between the two sensations, the one merging into the other, and every intermediate sensation between obvious fulness and obvious pain being produced according to the speed of inflation, the degree of inflation being of much less importance. The pain was localised in front as accurately as that of fulness, and was felt to be deeply situated in the middle line. It was invariably associated with a sensation of pain at exactly the same level behind, this sensation feeling as if it were situated less deeply than the anterior pain. The posterior sensation of pain, but not the anterior sensation, often radiated laterally, in one case equally in both directions, in another to the right only. The anterior sensation was one of painful fulness, as if a "hard crust of bread had become lodged and could not be forced either upwards or downwards"; the posterior sensation "resembled a stitch." The pain was in no case associated with either deep or superficial referred tenderness.

In cases of œsophageal obstruction pain may be felt in addition to the sensation of fulness and obstruction. It is, however, a much less common symptom; whilst a sense of fulness or obstruction was only absent in one among Lamy's[2] 134 cases, pain was absent in 60 per cent.; in half the cases the pain occurred on swallowing; in the other half it was present constantly, though it was sometimes aggravated by swallowing. When it was constantly present, it was probably due to invasion of neighbouring tissues and not merely to distension as in the other cases. The pain is almost always felt behind as well as in front, and it may radiate to the sides, especially to the left, but I have never met with a case in which radiation of the sensation of fulness or obstruction occurred.

I believe that the pain felt deeply beneath the sternum is situated in the œsophagus itself, and that the pain felt in the muscles of the back, which may radiate to either or both sides, is an example of referred pain.

Professor Langley tells me that his experiments indicate that the sensory nerve-supply of the œsophagus is mainly vagal. This agrees with our observations on the patient with bulbar palsy, in whom the sensation of fulness was only produced by a much greater rise in pressure than that required in a normal individual, and in whom no sensation of pain occurred as a result of rapid distension. Corresponding with these facts, the most characteristic referred pain from the œsophagus is the brow-ache felt by many people when they swallow an ice. This must clearly be a result of the sensory impulses ascending from the lower end of the œsophagus, with which the ice is longest in contact, by the vagi to the medulla, where they increase the irritability of a part of the neighbouring nucleus of the fifth nerve, with the result that pain is referred to its peripheral distribution. This explanation is in accordance with the fact pointed out by Gaskell[3] that the vagus contains the visceral branches of a primitive series of nerves, whose somatic sensory roots are in the sensory portion of the trigeminal nerve. The œsophagus being supplied with comparatively few sympathetic fibres, referred cutaneous and deep hyperalgesia are very rare in œsophageal disease. In our inflation experiments they never occurred, and I have never observed them in cases of obstruction. The pain sometimes felt in the muscles of the back in association with the deep substernal pain, when the œsophagus is rapidly inflated, and in cases of obstruction, in which the surrounding tissues are not involved, is, as I have said, probably a referred pain, the afferent impulse from the œsophagus in these cases being conveyed by sympathetic fibres to the segment of the spinal cord, which supplies the sensory nerves to the muscular and other tissues, in which the referred pain is felt.

#### (*b*) *Gastric Pain.*

I have already described how slow inflation of the stomach leads to a sensation of fulness in the epigastrium when the intragastric tension reaches 12 or 15 mm. of mercury. Rapid inflation, as, for example, when carbon-dioxide is set free in the stomach after solutions of sodium bicarbonate and of tartaric acid have been successively swallowed, gives rise to pain, varying in severity with the intragastric tension, which depends upon the volume of gas produced and the tone of the muscular coat. When the tension slowly diminishes owing to relaxation of the tone, the pain disappears. The rise in the intragastric pressure, which takes place under natural conditions, is generally so gradual that nothing more than an uncomfortable feeling of fulness results. When, however, fermentation is exceptionally active, the rise in intragastric pressure may be sufficiently rapid to produce a sensation of painful fulness in the epigastrium. In cases of organic pyloric stenosis, a tetanic contraction of the whole of the filled stomach, lasting for a few seconds, may occasionally be seen and felt in addition to the more familiar visible and palpable peristalsis. This condition is always accompanied by violent pain, which is clearly the result of the tension on the muscular fibres produced by the enormous rise in the general intragastric pressure.

It is, however, much more common for pain to result from distension of a part of the stomach than from distension of the whole organ. In order to understand how an isolated segment can be distended apart from the rest of the stomach it is necessary to consider in some detail the normal process of gastric peristalsis, as it has been revealed by observations under natural conditions with the X rays.[4] Each peristaltic wave begins as a constriction near the middle of the body of the stomach, which deepens as it slowly moves towards the pylorus. About an inch from the entrance to the pyloric canal it reaches such a depth that part of the pyloric vestibule becomes almost completely separated from the rest of the stomach. The part thus cut off then diminishes in size owing to the further progress of the peristaltic wave. As a result some of its contents are forced through the pyloric canal, the remainder being forced back as an axial reflux stream into the stomach. The waves increase in strength as digestion proceeds, and continue without intermission from immediately after the commencement of a meal until the stomach is empty. As a result of his investigations carried out in Pavlov's laboratory, Edelmann[5] concluded that hydrochloric acid stimulates peristalsis, the activity of which is proportional to the amount of acid present. He believes, moreover, that the stimulating action of chemical substances, such as alcohol and the extractive of meat, depends upon their power of calling forth a secretion of gastric juice. The activity of peristalsis also varies with the consistence of the food; this depends partly on the quantity of cellulose and other indigestible material present, partly on the amount of softening which takes place in cooking, and partly on the extent to which further subdivision and softening result from chewing.

The pylorus, in common with all other sphincters, possesses a neuro-muscular mechanism, by virtue of which it relaxes on the arrival of each peristaltic wave. But even when relaxed for the passage of chyme into the duodenum, the canal is so narrow that either no shadow of bismuth

[1] Lectures I. and II. were published in THE LANCET of April 22nd (p. 1051) and 29th (p. 1119) respectively.

[2] L. Lamy: Archives des Maladies de l'Appareil Digestif, tome iv., p. 451, 1910.

[3] W. H. Gaskell: Journal of Physiology, vol. vii., p. 1, 1886.

[4] Vide A. F. Hertz: Quarterly Journal of Medicine, vol. iii., p. 373, 1910.

[5] Edelmann: Dissertation, St. Petersburg, 1905, quoted by R. Magnus, Ergebnisse der Physiologie, vol. vii., p. 30, 1908.

passing through it is cast by the X rays, or, as I have occasionally observed, a very fine line joins the gastric and duodenal shadows. Some force is therefore required to press even finely divided particles through the pylorus. Sufficient force could not be exerted by peristalsis were it not that the waves are so deep that they shut off the extreme pyloric end of the stomach almost completely from the rest of the organ; otherwise they would simply produce a slight rise in the general intragastric pressure, which would be no greater at one end of the stomach than the other.

The relaxation of the pyloric sphincter on the arrival of a peristaltic wave is inhibited by certain reflexes. The most important of these depend upon the presence in the duodenum of hydrochloric acid (Pavlov), and the presence in the stomach of anything which might injure the duodenum owing to its chemical, mechanical, or thermal properties (Cannon,[6] Joh. Müller[7]).

The internal pressure at the extreme pyloric end of the stomach which is required to force chyme through the relaxed pylorus is normally insufficient to give rise to any sensation. When the peristaltic waves are for any reason exceptionally strong, they begin nearer the fundus than usual; as they also separate the pyloric end of the stomach from the rest of the organ at a point more distant from the pylorus than under natural conditions, a larger mass of chyme is compressed as each wave advances. At the same time the greater strength of the peristaltic contraction offers a more powerful resistance to the axial reflux stream of the portion of the chyme which does not pass through the pylorus. For these reasons abnormally strong peristalsis causes an excessive rise in the internal pressure in the pyloric end of the stomach, and the tension on its muscular fibres gives rise to pain.

A second factor, which may cause an excessive rise in pressure, is absence of the relaxation of the pylorus on the arrival of a peristaltic wave; very little chyme can then escape into the duodenum, the greater part being forced back into the stomach. Such absence of relaxation may be due to the various causes already mentioned or to an organic stricture of the pylorus. The latter has the further effect of acting as a stimulant to peristalsis, in accordance with the general law that the motor activity of a muscular tube is increased in the segment above an obstruction.

Barclay's[8] X ray observations, which are confirmed by my own more recent investigations, show that the tone and peristalsis of the stomach are quite independent functions and may be affected independently of each other in pathological conditions. Peristalsis may be excessive in an atonic dilated stomach, and much less frequently it may be deficient in a hypertonic stomach. Pain due to excessive pressure in the pyloric end of the stomach is most likely to occur when peristalsis is abnormally active in a hypertonic stomach; if at a later stage in the disease atony supervenes, peristalsis remaining unaltered, pain becomes a less prominent symptom, as the peristaltic contractions are then only able to separate the distal segment of the dilated stomach completely from the rest of the organ at a point comparatively near the pylorus.

From these general considerations I believe that it is possible to explain the origin of all true gastric pain, as distinct from referred pain and the pain which is associated with adhesions and with extension of the disease from the stomach to the parietal peritoneum.

The pain of the acute indigestion, which results from a rapidly eaten and insufficiently chewed meal, is due to the association of increased peristalsis with inhibition of pyloric relaxation caused by the presence of hard particles of food. Such particles remain in the stomach until all the fluid and semi-fluid contents have left, so that more time is allowed for the gastric juice to soften them and for peristalsis to break them up. Even at the end these processes are often incomplete, and very strong peristalsis is finally required to force the particles through the pylorus. It is only when the stomach has finally been emptied in the natural way or by vomiting that relief is experienced.

The excessive peristalsis and the rigidity of the pylorus in cases of organic obstruction account for the severe pain which occurs in this condition. It begins soon after a meal has been taken, and increases in severity as peristalsis becomes more active on account of the secretion of hydrochloric acid in non-malignant cases and the formation of organic acids in cases of pyloric carcinoma. The increase in the tone of the stomach, which occurs as it empties itself, is an additional factor in the progressive aggravation of the pain, as it makes it possible for the powerful peristaltic waves to shut off the pyloric end of the stomach more completely. In some cases, indeed, the pain only begins two or three hours after a meal, when the stomach has evacuated some of its contents. The pain may last for many hours, and in severe cases, in which evacuation by the natural passage is never complete, it is only relieved by vomiting or lavage.

Gastric pain is frequently associated with the presence of excess of free hydrochloric acid in the stomach. This is a comparatively rare occurrence apart from organic disease, the pain and hyperacidity being generally associated with gastric and duodenal ulcer and occasionally with gall-stones and chronic appendicitis. In spite of the doubts which have from time to time been expressed on the subject, the recent extensive investigations by Willcox,[9] Craven Moore,[10] and other English physicians on cases in which the diagnosis was confirmed by operation prove beyond question that an excessive quantity of free and of active hydrochloric acid is present in the large majority of cases of gastric and duodenal ulcer. In my first lecture I described the observations which led me to conclude that the contact of free hydrochloric acid with the intact mucous membrane and with the surface of an ulcer does not itself cause pain. But the relief afforded by alkalies suggests that the pain is in some way connected with the presence of free hydrochloric acid. I believe that this apparent contradiction is due to the fact that the stimulating effect of the acid on peristalsis, and the abnormally prolonged inhibition of pyloric relaxation, which occurs when the hyperacid chyme reaches the duodenum, can only cause pain when food is present in the stomach, as no rise in internal pressure can occur when there is nothing in the stomach upon which the muscular coat can contract. Hyperacidity is particularly likely to cause the excessive motor activity which results in pain when ulceration is present, as it may be presumed that the acid stimulates the afferent nerve endings more strongly when they are exposed in an ulcer than when the mucous membrane is intact. Moreover, a greater number of nerve fibres pass from the deep structures of the wall of the stomach, which are exposed by ulceration, than from the mucous membrane. For the same reasons the stimulating effect of alcohol and of coarse particles of food on peristalsis is exaggerated. The afferent impulses which pass from the surface of the ulcer are insufficient in themselves to give rise to any sensation, but they produce reflexes which may result in pain, increased peristalsis occurring in the case of a gastric ulcer and inhibition of pyloric relaxation in the case of a duodenal ulcer. This view is confirmed by the relief given to the pain of gastric ulcer by paralysing the afferent nerve endings in the ulcer by means of orthoform. My X ray observations show that the presence of a duodenal ulcer has the additional effect of increasing the tone of the muscular coat of the stomach; as I have already pointed out, the association of hypertonus with excessive peristalsis and inhibition of pyloric relaxation is very favourable for the production of pain.

True pylorospasm may perhaps be an additional factor in the production of pain in gastric and duodenal ulcers, which involve the pyloric canal. The reflex spasm of the pyloric sphincter in such cases would be analogous to the spasm of the anal sphincters, which occurs in cases of anal ulceration. It would lead to a rise in tension within the pyloric part of the stomach by increasing the resistance to the passage of chyme through the pylorus, as this is probably not completely arrested when relaxation of the sphincter is inhibited, so long as its tone is not increased.

Frequently, but by no means invariably, an ulcer near the cardia gives rise to pain immediately after meals and an ulcer near the pylorus about an hour and a half to two hours

[6] W. B. Cannon: American Journal of Physiology, vol. xx., p. 283 1907.
[7] Joh. Müller: Zeitschrift für Diätetische und Physikal'sche Therapie, vol. viii., p. 585, 1906.
[8] A. E. Barclay: Brit. Med. Jour., 1908, vol. ii., p. 712.
[9] W. H. Willcox: Quarterly Journal of Medicine, vol. iii., p. 93, 1909, and other papers.
[10] F. Craven Moore: Proceedings of the Royal Society of Medicine, iii., Medical Section, p. 25, and Surgical Section, p. 111, 1910.

after meals, intermediate situations being associated with intermediate times. The time of onset of pain in duodenal ulcer is much more constant; it almost always begins between two and three hours after a meal. The time relations can be explained by considering at what moment free hydrochloric acid comes into contact with the ulcer so as to lead to an exaggeration of the reflex motor efforts which produce pain. The hydrochloric acid is secreted mainly by the glands of the proximal two-thirds of the stomach, the secretion of the extreme pyloric end being actually alkaline. As no peristalsis and consequently no churning of the contents occur in the fundus, the outer layer of chyme remains constantly very acid. A cardiac ulcer is therefore bathed in acid gastric juice at a very early stage in digestion. The food which first reaches the pyloric end of the stomach is alkaline; it is only after a considerable interval that the acid gastric juice reaches this part to any great extent, and, as peristalsis is constantly active in the pyloric part, the gastric juice is greatly diluted by the large quantity of fluid with which it is mixed. Consequently an hour or more may pass before there is sufficient free acid to irritate an ulcer near the pylorus. The intermediate portion of the stomach differs from the pyloric end in secreting an acid juice; this does not, however, remain in contact with the mucous membrane in a concentrated state as it does in the cardiac end, for it is constantly mixed by peristalsis with the alkaline food. Consequently an ulcer in this situation is irritated by acid at an interval after a meal intermediate between that which elapses in cardiac and in pyloric ulcers.

In a series of cases of duodenal ulcer examined with the X rays I have always found that the stomach begins to empty itself immediately after the food has been swallowed, and that the evacuation is at first rapid.[11] When the pain begins, between two and three hours after a meal, only a small proportion of the food is still present in the stomach, and the hypertonic condition constantly present in cases of duodenal ulcer reaches its greatest development owing to the increase in tone which occurs as the bulk of the gastric contents diminishes. Under these conditions peristaltic contractions can produce a complete separation of the pyloric part from the rest of the stomach at a considerable distance from the pylorus. Owing to the excessive and prolonged secretion of normal gastric juice, which is the cause of the so-called hyperchlorhydria of duodenal ulcer, the proportion of gastric juice and the quantity of hydrochloric acid in the chyme increase as digestion proceeds. At first most of the free acid is combined with the proteins of the food, and the small quantity which reaches the duodenum is rapidly neutralised by the alkaline intestinal juice, bile and pancreatic juice, so that the relaxation of the pylorus is only occasionally inhibited. But after two or three hours, the proportion of acid present being greater, some of it reaches the ulcer before it is neutralised; the irritation of the ulcer increases the inhibition of pyloric relaxation produced by contact of the acid with the intact duodenal mucous membrane, so that the peristaltic waves advance against a pylorus, which only opens at considerable intervals in order to permit the passage of a small quantity of hyperacid chyme into the duodenum. Immediate relief to the pain follows the administration of alkalies or proteins, which neutralise the acid, or of food or water, which dilutes it; relief is also produced by vomiting and lavage, which remove the acid and at the same time empty the stomach, so that nothing is left upon which the muscular coat can contract. The pain disappears spontaneously only when the stomach has become completely empty. This generally occurs about an hour after the onset of pain, but if the evacuation of the stomach is hindered by partial obstruction due to cicatrisation or inflammatory swelling round the ulcer, the pain lasts for many hours. As the sense of fulness is produced by exactly the same mechanism as pain, when the stimulus is less powerful, a sensation of fulness is generally felt between two and three hours after food for some months before the first occurrence of pain. At a later stage pain may be replaced by this sensation after some meals, and, as Moynihan[12] has pointed out, the characteristic hunger pain is preceded and accompanied by a sensation of fulness, distension, or weight in the same situation. I have already explained how the patient often erroneously ascribes this to flatulence and repeatedly tries to eructate, temporary relief being at last obtained by the return of some of the air swallowed in the preceding unsuccessful attempts. The salivation, which often occurs when the pain is not severe, is an additional cause of the aërophagy.

Bertrand Dawson[13] has pointed out that the most frequent exception to the common time relations occur in gastric ulcers situated very near the pylorus, the pain often beginning immediately after food. This is doubtless due to the inflammatory swelling round the ulcer causing partial obstruction, so that the pain is produced in the same manner and with the same early onset as it is in cases of cicatricial or cancerous pyloric obstruction.

Occasionally there is no excess of hydrochloric acid in gastric ulcer. But as alkalies still give relief, it may be assumed that the pain is due to the reflex results of irritation of the ulcer by acid, although the latter be not present in more than the usual proportion. In the rare cases in which there is actually deficient gastric secretion the ulcer is always indurated and fixed by adhesions; the pain is then mainly extra-gastric in origin, but it may perhaps be due in part, as suggested by Alexis Thomson,[14] to spasm and increased peristalsis resulting from the interference with the motor functions of the stomach.

So far I have only referred to the effect of gastric and duodenal ulcers on the peristalsis of the pyloric end of the stomach and on the pyloric sphincter. These effects are most marked when an ulcer is situated near the pylorus, and consequently ulcers in the cardiac end and in the body of the stomach often give rise to no pain until they have reached the peritoneal surface and led to adhesions or local peritonitis. But such ulcers may cause true visceral pain in other ways than those already described. Cannon[15] has shown that relaxation of the cardia is inhibited by the contact of free hydrochloric acid with the mucous membrane of the cardiac end of the stomach. The inhibition is increased by the presence of an ulcer in its neighbourhood, just as the inhibition of pyloric relaxation is increased by the presence of an ulcer in the duodenum. Consequently, towards the end of a meal, when free hydrochloric acid is present, the cardia does not relax as each bolus reaches it; œsophageal peristalsis becomes exaggerated, and pain produced by distension of the extreme lower end of the œsophagus is felt high up in the epigastrium before the meal is finished. In confirmation of this, Barclay[11] has shown with the X rays that ulceration near the cardia may give rise to such serious functional obstruction of the œsophagus that dilatation ensues. In a patient, who died after the performance of gastrostomy for a supposed stricture of the lower end of the œsophagus, a very small ulcer was found near the cardia; the œsophagus was greatly dilated, but there was no obstruction.

In organic hour-glass contraction of the stomach the stricture leads to exactly the same motor disturbances in the proximal part of the organ that pyloric obstruction causes in the distal part. Peristalsis, which is normally absent from the fundus, can now be observed with the X rays, and tetanic contraction of the whole of the proximal segment can occasionally be seen and felt. Excessive peristalsis causes pain by the tension exerted on the part of the stomach just above the obstruction, and tetanic contraction causes pain by the tension exerted on the whole of the contracting segment.

X ray observations have shown that an ulcer in the body of the stomach may cause a local spasmodic contraction, which leads to a temporary and partial hour-glass obstruction (Jollasse,[16] Barclay,[11] Jonas[17]). This does not by itself cause pain, as it can often be seen with the X rays when the patient is quite comfortable. The absence of pain is due to the fact that such a spasmodic contraction never leads to peristalsis or tetanic contraction in the proximal part of the stomach; this is, in fact, an important aid in the distinction of functional from organic hour-glass contraction. When, however, cicatrisation of the ulcer has produced partial obstruction, the ulcer, if not completely healed, may cause a local spasm, which makes the obstruction complete. In

[11] These observations have been confirmed by A. E. Barclay: Archives of the Roentgen Ray, vol. xv., p. 174, 1910.
[12] B. G. A. Moynihan: Duodenal Ulcer, p. 101, London, 1910.
[13] Bertrand Dawson: Brit. Med. Jour., 1908, vol. i., p. 1088.
[14] Alexis Thomson: Brit. Med. Jour., 1909, vol. i., p. 648.
[15] W. B. Cannon: American Journal of Physiology, vol. xxii., p. 105, 1908.
[16] Jollasse: Fortschr. a. d Geb. d. Röntgenstr., Band xi., 1906.
[17] S. Jonas: Wiener Klinische Rundschau, Nr. 47-48, 1909.

such cases peristalsis and tetanic contraction may perhaps occur in the proximal part of the stomach and give rise to pain.

It is often difficult to distinguish the gastric symptoms of cholelithiasis and chronic appendicitis from the symptoms of gastric and duodenal ulcer. This is due to the fact that the pain is produced in the pyloric end of the stomach by exactly the same mechanism, although the primary cause is different. Thus Lichty [18] has shown how frequently excess of hydrochloric acid is present in the stomach in diseases of the gall-bladder and biliary ducts; in a considerable proportion of his cases the gastric analyses were made because there were definite symptoms of gastric disturbance associated with gall-bladder symptoms, and in some the former were present alone and the disease of the gall-bladder was only discovered at the subsequent operation. Similarly, many cases of chronic appendicitis with predominant gastric symptoms have been shown to be associated with hypersecretion of gastric juice. In both cases the hyperacidity causes abnormally active peristalsis. The experiments of Cannon and Murphy [19] show that injury to the intestines leads to inhibition of pyloric relaxation. Cholelithiasis and chronic appendicitis have probably the same effect, as in spite of the excessive activity of peristalsis there is often a slight delay in the evacuation of the stomach. I have observed, moreover, that these conditions may lead to gastric hypertonus. Excessive peristalsis being associated with hypertonus and inhibition of pyloric relaxation, pain is produced, exactly as it is in cases of ulceration. This view is confirmed by the fact that the contracted pyloric end of the stomach can occasionally be felt as a tumour, and can often be seen during operations in cases of duodenal ulcer, gall stones, and chronic appendicitis. The condition has been called "pylorospasm," but Mr. Moynihan agrees with me that the term is not strictly accurate, as it is not the pyloric sphincter itself but the pyloric vestibule which is abnormally contracted.

In my first lecture I pointed out that when the stomach was distended with gas the sensation of fulness was felt deeply beneath the upper part of the anterior abdominal wall in the middle line. The sensation of pain produced by rapid distension of the whole stomach with gas and that produced by tetanic contraction in pyloric obstruction is felt in the same situation; it varies in different individuals, but as a rule extends from near the xiphisternum to near the umbilicus. When only part of the stomach is subjected to abnormal tension pain is felt in the upper or lower section of this area, according to whether the pain originates in the cardiac or pyloric division of the stomach. In a case of hour-glass stomach, upon which Mr. R. P. Rowlands operated, the contraction was due to the cicatrisation of an ulcer close to the cardia, the proximal segment being no larger than a hen's egg; in this case the pain was felt very high in the epigastrium. In the more common cases of hour-glass stomach, in which the constriction is near the centre, the pain extends further downwards. On the other hand, the pain in ulcers of the pyloric end of the stomach and of the duodenum and in pyloric obstruction is felt nearer the umbilicus, the exact situation varying in different individuals. The gastric pain in cholelithiasis and chronic appendicitis, being produced by the same mechanism, is felt in the same region. Pain is occasionally felt a little to the left of the middle line in gastric cases; it is sometimes felt to the right in cases of duodenal ulcer, especially when excessive tension also occurs in the proximal end of the duodenum owing to partial obstruction caused by cicatrisation, inflammatory swelling, and possibly spasm.

It was formerly thought that the pain in gastric ulcer was felt exactly over the situation of the ulcer. Anatomical and radiographic observations have shown, however, that this is not the case. I have already pointed out that the sensation produced in a movable organ must be felt in an average position, as the adequate stimulation of any organ or part of an organ can only produce a single sensation, which is referred to the same situation whatever the position of the organ at the moment may be. Moreover, the pain of a gastric or duodenal ulcer is not produced in the ulcer itself, but in a part of the stomach, which is subjected to abnormal tension owing to the reflexes resulting from irritation of the ulcer; consequently, even if the stomach were fixed and the power of localisation were as accurate as it is in the œsophagus, the pain would not be felt over the ulcer itself.

The pain produced by pressure in the epigastrium in gastric disorders was until recently regarded as a result of direct pressure upon the stomach. When the tenderness was localised to a small area, it was supposed that this area corresponded with the situation of some local disease such as an ulcer. More accurate comparison between the situation of the tender area and that of the ulcer, as revealed post mortem and at operations, the fixity of the tender area when the stomach changes its position with alterations in posture and on deep respiration, and the fact, first disclosed by the X rays, that the tender area is generally situated entirely outside the area occupied by the stomach, showed that this view was incorrect. I have already described how some of these arguments were used to support the untenable theory that spontaneous pain does not originate in the stomach itself. But as the tenderness of an organ can only be revealed by direct pressure upon it, these facts prove beyond doubt that the pain produced by pressure in the epigastrium in gastric disorders can rarely be due to tenderness of the stomach itself. This is indeed what would be expected from a consideration of the adequate stimulus to gastric pain. Pressure could only give rise to pain by increasing the tension in a part of the stomach in which it was already excessive. Corresponding with this, on the few occasions on which I have observed tetanic contraction of a part of the stomach in hour-glass constriction or of the whole stomach in pyloric obstruction, the pain was increased by pressure on the tumour formed by the contracted organ; such pressure would have the effect of increasing the internal tension. Occasionally also, when peristalsis is visible and palpable, pressure near the pylorus increases the pain, and in the rare cases in which the contracted pyloric part of the stomach forms a palpable tumour, this is generally found to be tender. But pressure applied over a gastric ulcer could not possibly cause local pain, as ulcers in the alimentary canal are insensitive to mechanical stimuli.

In the large majority of cases the epigastric tenderness is a result of the irritable focus in the spinal cord produced by abnormal impulses reaching it from the stomach; pressure on the skin, muscles, and connective tissues supplied by the irritable spinal segment produces an exaggerated sensory effect. This is generally most marked in the muscles, for cutaneous hyperalgesia is often absent, and deep pressure always causes more pain than pressure applied as far as possible to the skin alone. That the connective tissues are also concerned is shown by the pain produced by pressure over the linea alba in patients in whom the recti muscles are widely separated. Jonas [20] has pointed out that in gastric ulcer pressure produces much less pain when the recti are voluntarily contracted than when they are relaxed. This suggests that some structure more deeply situated than the abdominal muscles is also tender in these cases. Roux's [21] anatomical investigations showed that the solar plexus is directly beneath the common area of deep tenderness in gastric disorders, and most continental authorities have accepted his conclusion that this is the actual seat of the deep tenderness. But the sensory sympathetic nerve-fibres have their cell station in the posterior root ganglia and pass through the solar and other plexuses without undergoing any structural change; as the sensation produced by irritation of afferent nerve-fibres is always referred to their peripheral distribution, pressure on the solar plexus—if it had any effect at all—would give rise to no local sensation but to pain in the viscera. Moreover, there is no evidence that nerve-fibres are more sensitive to direct pressure when they are conveying impulses than when they are resting. The sensitive structure which lies deeper than the abdominal muscles is therefore neither the stomach itself nor the solar plexus; it is highly probable that it is the subperitoneal tissue, which Ramström [22] has shown is very richly supplied with sensory nerve-endings.

Referred tenderness is always greatest when spontaneous pain is greatest, as the spinal segment is then most irritable, owing to the arrival of impulses from the affected part. In

[18] J. A. Lichty: American Journal of the Medical Sciences, vol. cxli., p. ??, 1911.
[19] W. B. Cannon and Murphy: Annals of Surgery, vol. xliii., p. 51?, 1906.
[20] S. Jonas: Verhandlungen des Kongresses für Innere Medizin, vol. xxv., p. 445, 1908.
[21] J. Ch. Roux: Revue de Médecine, vol. xix., p. 878, 1899.
[22] M. Ramström: Mitteilungen aus den Grenzgebieten der Medizin und Chirurgie, vol. xviii., p. 314, 1908.

some cases, especially in men, tenderness may be present only during the period in which pain is felt; in other cases, especially in neurotic and anæmic women, it is continuous in the intervals between the attacks of pain, and it may last to a less extent for a considerable period after all spontaneous pain has disappeared.

It was at one time thought that cutaneous hyperalgesia and localised deep tenderness were characteristic symptoms of gastric ulcer. But the knowledge gained from the frequent abdominal operations of recent years has shown that this view is incorrect. On the one hand, cutaneous hyperalgesia occurs not infrequently in the functional dyspepsia of anæmic and neurasthenic patients, as Bertrand Dawson [23] has shown and my own experience confirms, and deep tenderness occurs even more frequently among the same class of patients, although indeed it is unusual to find it localised to a small area except in organic disease. On the other hand, cutaneous hyperalgesia is frequently absent in gastric and duodenal ulcer, especially in men; I have, in fact, only observed it in a single case of duodenal ulcer in which the diagnosis was confirmed by operation, and in that case it was situated on the left side in the situation characteristic of gastric disease. Deep tenderness may also be absent, but this is comparatively rarely the case if the patient be examined when the pain is at its worst.

These facts are not surprising when the cause of cutaneous and deep hyperalgesia is considered. On the one hand, the same irritable focus in the spinal cord is produced by excessive afferent impulses passing from the stomach, whatever their primary cause may be; on the other hand, an irritable focus is particularly prone to occur in neurasthenic and anæmic individuals, but it is only produced by exceptionally strong stimuli in patients with a healthy nervous system.

When the disease of the stomach has given rise to local inflammation of the parietal peritoneum, pressure over the inflamed area gives rise to pain, for Mackenzie and Lennander have shown that pressure is an adequate stimulus to the inflamed subperitoneal tissue. Consequently in such cases the exact locality of the disease can be recognised. As the tenderness is due to inflammation, it is constantly present and is largely independent of spontaneous pain.

Professor Langley has shown that the movements and rise of blood pressure, which occur in lightly anæsthetised animals when any of the white rami communicantes or any of the strands of abdominal sympathetic nerve-fibres are stimulated, are not observed on stimulating the vagus at the lower end of the œsophagus, although respiratory and other reflexes, indicating the presence of afferent fibres, are obtained. He concludes that painful sensations in the stomach and small intestines are conveyed by sympathetic and not by vagal nerve-fibres. This corresponds with the fact that referred pain and tenderness in gastric disease occur almost invariably in the distribution of the seventh, eighth, and ninth dorsal segments, as was first clearly demonstrated by Head, and very rarely in the distribution of the trigeminal nerve, as would occur if the afferent impulses were conveyed by the vagus. Moreover, the gastric crises of tabes, in which the character of the pain is exactly similar to that produced by primary gastric disease, must result from irritation somewhere in the course of the nerve-fibres which convey painful sensations from the stomach; and various surgeons, acting upon Foerster's [24] suggestion, have recently shown that the crises can be abolished by section of the posterior roots of the seventh, eighth, and ninth dorsal nerves.

Miller [25] has recently proved that the reflexes caused by irritation of the gastric mucous membrane depend upon afferent impulses, which are conveyed by vagal and not by sympathetic nerve-fibres. The afferent vagal fibres from the stomach, which never convey painful sensations, end therefore in the insensitive mucous membrane, whereas the afferent sympathetic fibres, which can convey painful sensations, end in the sensitive muscular coat.

### (*c*) *Intestinal Pain.*

Using the same apparatus as that employed in our experiment on the sensation of fulness, Mr. Digby and I found that rapid inflation resulted in a sensation of pain both in the colon and the rectum. The rectal pain was accompanied by a sensation of tenesmus, especially when the ampulla was inflated. The pain, like the sensation of fulness, was produced instantaneously and slowly disappeared, unless the air was suddenly allowed to escape, in which case it disappeared at once.

I have already described our observations on a patient in whom a loop of the pelvic colon had prolapsed through the gap left by the removal of part of the sacrum; they show that the sensation of fulness is visceral in origin and due neither to tension on the peritoneum nor to pressure on the abdominal wall. At the same time the pain produced by rapid distension was shown to originate in the intestine.

True intestinal pain only occurs in those diseases in which there is abnormal motor activity. Catarrhal colitis may give rise to a feeling of fulness owing to the distension produced by the excessive development of gas, but there is no acute pain. Acute colitis without ulceration is only accompanied by pain when the occurrence of severe diarrhœa shows that the motor activity of the intestine is excessive. In the absence of diarrhœa, ulceration causes no pain so long as the peritoneum is not involved and cicatrisation has not resulted in obstruction. Thus typhoid fever and tuberculous ulceration are frequently unaccompanied by any pain, and simple ulcerative colitis and dysentery may also run a quite painless course. Ulcers of the colon can be touched with a probe or painted with silver nitrate solution through a sigmoidoscope without giving rise to any sensation, and the frequent absence of all pain throughout the disease shows that the mere contact of the intestinal contents, however irritant they may be, does not cause pain.

Peristalsis is unable by itself to cause pain. It is only when the onward passage of the intestinal contents is prevented by organic or spasmodic obstruction that the adequate rise in internal pressure is produced. Thus colic accompanying the diarrhœa caused by chemical or mechanical irritation of the intestines, whether associated with acute colitis or not, is probably due to the simultaneous occurrence of violent peristalsis of one segment and stricture due to the spasmodic contraction of a more distal segment, the intervening bowel being thus subjected to a sudden considerable rise in internal pressure. Spasmodic contractions are more likely to occur as reflexes from an ulcerated surface than from the unbroken mucous membrane, although the afferent impulses, which are produced by the contact of the irritating intestinal contents with the ulcer and which give rise to the reflexes, do not directly cause pain. In many cases of colitis pain only occurs after meals, and in other cases the pain is aggravated by the taking of food. This is due to the fact that the consumption of food is the most powerful of all stimuli to the motor activity of the colon, as I have been able to prove by means of X ray observations on normal individuals and on patients with colitis.

The most violent form of intestinal pain is the colic which occurs in cases of organic obstruction. As I have already pointed out, this is produced by the pressure exerted on the muscular coat of the bowel above the obstruction by the intestinal contents, which are forced forward by a violent peristaltic wave or a tetanic contraction and are prevented from passing onward by the obstruction. When a tetanic contraction occurs in a segment of intestine, the latter can be felt to rise under the hand as a hard tumour, and the patient complains of great pain; the intestine becomes once more impalpable as the paroxysm of pain disappears. I do not think that a tetanic contraction of the empty intestine can by itself cause pain. When the intestine is distended with fluid fæces and gas they are squeezed out by the contracting segment, so that no great rise in the internal pressure occurs. If, however, the passage of fæces and gas in one direction is prevented by an organic obstruction, then the rise in pressure necessary to produce pain occurs. This is the cause of the severe paroxysms of pain which accompany the tetanic contraction of the colon above a growth.

Pain is a frequent symptom of the enterospasm which is the cause of the spastic constipation occurring in neurotic individuals, either alone or associated with the passage of membranes composed of coagulated mucus in mucomembranous colitis. In these conditions the contraction of the bowel is present for considerable periods, instead of occurring in short paroxysms as in cases of organic obstruction. The pain is not due to the tonic contraction alone,

[23] B. Dawson: Brit. Med. Jour., vol. ii., 1905, p. 1032.
[24] Foerster and H. Küttner: Beiträge zur Klinischen Chirurgie, vol. lxiii., p. 245, 1909. Vide also O. Bruns and F. Sauerbruch: Mittellungen aus den Grenzgebieten der Medizin und Chirurgie, vol. xxi., p. 173, 1910.
[25] F. R. Miller: Journal of Physiology, vol. xlii., p. 409, 1911.

as the contracted colon can often still be felt for several weeks after treatment has led to the complete disappearance of the pain and constipation. Moreover, the empty colon of normal individuals is sometimes so contracted as a result of the tone of its muscular coat that part of it can be felt, especially in the left iliac fossa, as a solid cord, although pain and constipation are absent. When, however, the tonic contraction involves a segment of bowels containing fæces, the tension on the circular muscle fibres of the intestine may be sufficient to produce a sensation of uncomfortable fulness or even of slight pain. The severer attacks of pain are probably due to exactly the same cause as ordinary intestinal colic, the further progress of the intestinal contents forced forward by a peristaltic wave being prevented by the tonically contracted condition of the bowel, so that they distend the intervening portion and give rise to pain, or the tension on the wall of the contracted colon may be increased by more fæces being forced into it. Consequently the pain is relieved when further distension is prevented by the removal of the contents of the colon by an enema, although the actual passage of the fæces and water through the contracted bowel may give rise to a sufficient increase in pressure to cause considerable pain. The pain in lead colic is probably due to a similar combination of peristalsis and spasm to that which occurs in severe cases of spastic constipation.

Visceral tenderness is only associated with uncomplicated intestinal pain when the latter is a result of enterospasm or of tetanic contraction of the bowel above a growth. In these conditions pressure upon the contracted intestine increases the internal tension to the minimal adequate height, or aggravates any pain which is already present. The adequate internal tension is particularly likely to be attained, if the pressure be directed against a rigid structure such as the spine or the iliac fossa. It is so easy in cases of this sort to recognise the contracted colon by palpation that it is impossible to doubt that the pain produced by pressure is true visceral pain. Moreover, equally firm pressure on the abdomen in the immediate neighbourhood of the tender colon produces no pain.

I have already pointed out that visceral pain is accurately localised in fixed viscera and inaccurately in very movable viscera. While, therefore, pain in the very mobile small intestine is felt near the umbilicus and pain in the movable parts of the colon between the umbilicus and pubes, pain in the duodenum and the last few inches of the ileum, in the ascending and descending colon, at the hepatic, splenic and pelvi-rectal flexures, and in the rectum is felt in regions which correspond with a fair degree of accuracy with the true positions of these parts. Thus obstruction in the small intestine generally causes pain in the neighbourhood of the umbilicus, but obstruction at the extreme end of the ileum, due to cancer of the cæcum or adhesions following appendicitis, leads to attacks of pain, which may begin near the umbilicus, but culminate in the right iliac fossa, as the last few inches of the ileum, which constitute its least movable part, are then distended. Obstruction at the splenic flexure causes paroxysms of pain, which often begin below the umbilicus when the central and most movable part of the transverse colon is the seat of painful stimulation, but generally end in the neighbourhood of the obstruction when the terminal and least movable part of the transverse colon is subjected to excessive internal tension. Similarly attacks of pain in cancer of the rectum often begin in the middle line just above the pubes and end in the neighbourhood of the sacrum or in the rectum itself, where they produce a sensation of painful tenesmus.

The pain of appendicitis is in part due to distension of the appendix itself. This true appendicular pain is felt in the neighbourhood of the umbilicus. A large proportion of acute attacks begin with pain in this situation, and a history is frequently obtained of previous short and less severe attacks, in which the pain was confined to the centre of the abdomen. If the appendix is removed at a sufficiently early stage in acute appendicitis, there may be no spontaneous pain in the right iliac fossa; the appendix is then found to be distended with inflammatory products, but the inflammation has not reached the parietal peritoneum.

Pressure upon a distended appendix must increase the internal tension and so give rise to pain. I have been able to demonstrate this in eight patients, in whom the inflamed appendix was situated in the pelvis. No great tenderness was observed on abdominal palpation, but on rectal examination the appendix could be felt and rolled under the finger, extreme pain being thereby elicited, although the examination was otherwise almost or quite painless. As the examination was made per rectum, there could be no question of the pain being due to pressure on the parietal peritoneum, or on hyperalgesic skin or voluntary muscle. The diagnosis of an inflamed pelvic appendix, uncomplicated by spreading peritonitis, was in each case confirmed by operation.

In the presence of peritonitis, however localised it may be, pain is generally felt in the right iliac fossa, the common history of pain beginning near the umbilicus and then settling in the cæcal region being obtained. This secondary pain is due to the peritonitis, and originates in the parietal peritoneum and not in the appendix. In cases of appendicitis in which the appendix is not situated in its common position the initial pain begins as usual near the umbilicus, but the secondary peritoneal pain is felt in the actual situation of the disease and not in the right iliac fossa. Thus I have seen two cases in which the cæcum was situated immediately below the liver and the appendix was adherent to the gall-bladder; in both cases the pain began near the umbilicus and finally settled in the situation of the peritonitis, but it was at no period present in the right iliac fossa. When an appendix situated in the pelvis or in the retro-cæcal fossa becomes inflamed, the pain begins near the umbilicus, but continues respectively in the pelvis and in the loin. The true appendicular pain often disappears with the onset of peritoneal pain, as it is the result of distension and can therefore no longer occur after perforation and collapse of the distended appendix.

Wherever the appendix may be situated, the skin and muscles over the right iliac fossa are often the seat of referred tenderness and sometimes of referred pain. The constant situation of the referred tenderness and pain is due to the sympathetic nerve-supply of the appendix being always the same, whatever abnormality there may be in its situation. It has been suggested that the deep tenderness is due to pressure on the irritable ileo-cæcal plexus, as Keith[26] showed that the ileo-cæcal sphincter is situated directly beneath McBurney's point. But the arguments, which prove that the deep epigastric tenderness in gastric diseases is not due to pressure on the solar plexus, apply here with equal force. McBurney's point is simply the centre of the area of referred muscular hyperalgesia. The true appendicular pain situated in the centre of the abdomen is often present before any referred pain or tenderness. When peritonitis is present, it gives rise to tenderness, which is due to the inflammation of the subperitoneal tissue. With peritonitis in the right iliac fossa, it is impossible to judge how much of the deep tenderness is due to peritonitis and how much to referred hyperalgesia of the various structures of the abdominal wall. When the peritonitis is confined to the pelvis or other remote situation, the tenderness in the right iliac fossa is all due to referred hyperalgesia, the situation of the peritoneal tenderness giving an indication of the localisation of the appendix.

The experiments of Langley and the observations of Head on referred cutaneous hyperalgesia indicate that the sensation of pain in the intestines is conveyed by sympathetic nerve-fibres through the posterior roots of the tenth and eleventh dorsal nerves to the spinal cord. This conclusion is confirmed by the observations of Bruns and Sauerbruch[27] on a tabetic patient in whom they had divided the posterior roots of the seventh, eighth, and ninth dorsal nerves for gastric crises. Although the latter completely disappeared, an attack of acute indigestion, brought on by drinking excess of soured milk three months after the operation, was accompanied by pain in the lower part of the abdomen considerably below the situation of the pain of the crises. I have already pointed out that the fibres conveying visceral sensations probably ascend the spinal cord in the posterior columns. The viscera may therefore occasionally be anæsthetic in tabes, and a case of acute appendicitis may end fatally without pain, tenderness, or rigidity, although the patient's mind remains alert until the end.[28]

[26] Vide F. Treves: Brit. Med. Jour., 1902, vol. i., p. 1592.

[27] O. Bruns and F. Sauerbruch: Mitteilungen aus den Grenzgebieten der Medizin und Chirurgie, vol. xxi., p. 173, 1910.

[28] Vide L. A. Conner: Journal of the American Medical Association, vol. lv., p. 1427, 1910.

According to Langley, the pelvic nerves, which originate from the first three sacral nerves, convey painful sensations from the rectum. Corresponding with this, referred pain in diseases of the rectum is felt in the skin and deep tissues supplied by the first, second, and third sacral segments of the spinal cord.

### VII. Variations in the Sensibility of the Alimentary Canal.

The sensibility of the alimentary canal, like that of the skin, varies in different healthy individuals. I have already pointed this out in connexion with our experiments on the sensibility of the alimentary canal to heat and cold; the intestines, for example, are generally insensitive to thermal stimulation, but in a small proportion of people they are sensitive. We also found considerable individual variations in the minimal internal pressure required to produce a sensation of fulness in all parts of the alimentary canal, and rapid inflation caused pain with greater ease in some individuals than in others. These variations did not appear to depend in any way upon the mental development of the individuals examined.

Apart from the differences in the sensibility of the viscera in normal individuals, the possibility of pathological variations must be considered. It has been suggested that the pain associated with hyperchlorhydria is sometimes a result of hyperæsthesia of the gastric mucous membrane. But I have not yet met with a patient in whom pain or other sensation was produced by the introduction of 0·5 per cent. hydrochloric acid into the empty stomach. I believe, however, that it is possible for an individual to become hypersensitive to the stimulus which results in the sensations of fulness and pain. It is a well-recognised fact that the sensibility of the skin and the special senses can be increased by practice, and there is no reason why it should not be possible to develop visceral sensibility in a similar manner. When an individual concentrates his attention on every slight sensation connected with his digestive organs, he appears to acquire an increased sensibility, which results in a lowering of the threshold of consciousness and hence of the minimal adequate stimulus, and in an exaggerated sensory response to stimuli which were already adequate. This is probably the explanation of the symptoms in abdominal hypochondriasis. I have already pointed out how easy it is to misinterpret visceral sensations, even when the individual concerned has a good knowledge, and when his viscera have become hypersensitive in the manner described, the sensations are often seriously and grotesquely misinterpreted, with the result that the patient may end by becoming insane. Thus a hypochondriacal patient paying close attention to the sensation produced in his œsophagus when hot or cold food is swallowed and to the disappearance of the sensation as the food enters the stomach, comes to the conclusion that his gullet ends in a blind sac. Another with a hypertonic stomach and an increased sensibility to the adequate stimulus interprets the sensation of fulness, which comes after a very little food has been eaten, as an indication that all nourishment should be refused because the passage is blocked.

In some cases the sensations felt in the abdomen are not true visceral sensations at all, but are purely mental in origin, as in the case I described in my first lecture of a patient whose symptoms seemed to point to a thermal hyperæsthesia, but in whom the stomach and intestines were shown to be completely insensitive to hot and cold stimulation.

The *faiblesse irritable* of the nervous system, which is characteristic of neurasthenia and which also occurs in chlorosis, results in the same lowering of the minimal adequate stimulus and exaggeration of the sensory response which occur in hypochondriasis. Consequently digestive processes which are normally imperceptible become perceptible, and conditions which would otherwise lead to nothing more than a sensation of slight discomfort give rise to pain. Owing to the irritability of the central nervous system afferent impulses also give rise to an exaggerated reflex motor and secretory response, which accounts for the frequency with which the constipation of neurasthenia is complicated by enterospasm and muco-membranous colitis; the resulting hypertonic condition of the colon makes it possible, as I have already pointed out, for a moderate degree of fæcal retention to produce a sensation of fulness or pain.

In visceroptosis the afferent impulses, produced in the erect position by the constant drag of the viscera on the sensitive structures to which their peritoneal supports are attached, give rise to no sensation if the patient is otherwise healthy. But if he is also neurasthenic discomfort and pain result owing to the low minimal stimulus required to produce sensation.

Owing to the excitable condition of the nervous system in neurasthenia and in chlorosis the spinal segment which receives painful impulses from a diseased organ becomes exceptionally irritable, and the irritability spreads to neighbouring spinal segments, with the result that areas of cutaneous and deep tenderness are more constantly present and are considerably more extensive in neurasthenic and anæmic patients than in otherwise normal individuals suffering from gastric disorders.

### Conclusions.

The following conclusions may be drawn from the experimental and clinical investigation of the sensibility of the alimentary canal in health and disease.

1. The mucous membrane of the alimentary canal from the upper end of the œsophagus to the junction of the rectum with the anal canal is insensitive to tactile stimulation.

2. The mucous membrane of the œsophagus and the anal canal is sensitive to thermal stimulation, but that of the stomach and intestines is insensitive.

3. The mucous membrane of the œsophagus and stomach is insensitive to stimulation by dilute hydrochloric acid and dilute organic acids, and the rectum, but not the anal canal, is insensitive to stimulation by glycerine. Contact of alcohol with the mucous membrane of all parts of the alimentary canal gives rise to a sensation of heat.

4. The surface of gastric and intestinal ulcers is no more sensitive to tactile, thermal, and chemical stimulation than the intact mucous membrane.

5. The sensation of fulness in the alimentary canal is due to a slow increase in the tension exerted on the fibres of its muscular coat; the adequate tension is constant for each segment, but the volume of contents necessary to produce this tension varies with the tone of the muscle-fibres.

6. The sense of fulness in the rectum has a special character, by virtue of which it produces the call to defæcation.

7. Hunger consists in a general sensation of malaise and weakness in the body as a whole and a local sensation of emptiness in the abdomen. The latter is due to the periodical motor activity of the stomach and intestines during fasting, when the sensory nerves are in a condition of hyperexcitability.

8. The only immediate cause of true visceral pain is tension; this is exerted on the muscular coat of hollow organs and on the fibrous capsule of solid organs. The sensation of pain in the alimentary canal is due to a more rapid or greater increase in tension on the fibres of its muscular coat than that which constitutes the adequate stimulus for the sensation of fulness.

9. Pain in diseases of the alimentary canal is most frequently true visceral pain; it is sometimes due to spread of the disease to surrounding sensitive structures or to tension exerted on the peritoneal connexions; and, lastly, it may be situated in the skin, muscles, and connective tissues, to which it is referred from the segment of the central nervous system, which receives the afferent nerves from the affected organ.

10. Tenderness in diseases of the alimentary canal is most frequently due to hyperalgesia of the skin, voluntary muscles, and connective tissues supplied by the segment of the central nervous system, which receives the afferent nerves from the affected organ. It may also be due to increase in tension within the organ produced by the external pressure giving rise to the adequate stimulus of visceral pain; this is rare in the stomach, but comparatively common in spasmodic conditions of the colon and in appendicitis. Lastly, it may be due to the spread of the disease to the parietal peritoneum.

11. Visceral sensibility is exaggerated by training in hypochondriasis, and visceral and referred sensations are exaggerated by the irritable condition of the central nervous system in neurasthenia and anæmia.

# An Address
ON
# THE SYMPTOMATIC VAGARIES OF PARTIAL PYLORIC OBSTRUCTION.

*Delivered before the Greenock and District Faculty of Medicine*

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GENTLEMEN,—You must all at some time or other in the course of your practice have encountered cases when treatment of certain gastric conditions has led to improvement but not to cure, when, as long as the treatment has lasted, the patient has experienced relief. As soon, however, as the treatment has ceased and the patients have resumed their customary mode of living, the old series of symptoms reappear, to be again relieved, it may be, by a repetition of the former treatment. Now, I do not presume for one moment to suggest that such an oscillatory manifestation of symptoms has any peculiarly distinctive diagnostic significance—that is to say, that a patient presenting features of the character indicated is suffering unmistakably from one particular form of disease—for it would not be difficult to conjure up in one's mind quite an innumerable list of complaints which remain in abeyance so long as certain dietary precautions are followed and certain remedies taken. If, however, the history of the patient's illness be found to be accompanied with certain symptoms that can be evoked, or which by careful clinical observation can be detected, then the presumptive evidence becomes sufficiently strong in favour of a definite lesion, the character of which becomes the plainer the more minutely the case is investigated.

## CAUSES AND EFFECTS OF PARTIAL PYLORIC OBSTRUCTION.

I am going to ask you to follow me while I adapt the usual text-book style of describing the condition upon which my remarks are based—that is to say, I will first indicate the nature of the lesion upon which the symptoms depend, and show how these latter arise and manifest the vagaries which are so distinctive a feature of the condition. Partial pyloric obstruction owes its origin most frequently to cicatricial contraction, the result of an inflammatory process either within or without the canal. There are, however, undoubtedly, a considerable number of cases where the narrowing of the canal is of congenital origin and due to some developmental defect. As the trend of my remarks is essentially clinical I shall not labour the pathological aspect of the question. But I would like briefly to emphasise the importance of recognising the congenital cause of partial obstruction, because I feel it has not yet received that consideration and attention which it merits. I will only refer those interested in this part of the subject to two contributions[1] which I have made regarding it, and more particularly to an exhaustive and able discussion on the lesion by Dr. William Russell of Edinburgh.[2]

It must be clearly understoodthat the nature of the obstruction under consideration, watever may be its cause, is purely of a partial and incomplete character—that is to say, it has not reached that stage of completeness when but little can be forced through, and the contents of the stomach must be removed if the patient is to be relieved of the symptoms of distension and oppression. Short, then, of comparatively complete obstruction, it can be well understood that every degree of hindrance of the passage of the food from the stomach into the duodenum may exist from the very slightest obstruction upwards.

If one considers the physiological effects of an obstruction at the gastric outlet—and by this it must be understood that not only the pylorus itself but the parts of the alimentary canal both in front and behind it are included—it will be clear that the organ first to be affected by the barrier will be the stomach itself. Whatever be the relative importance of the different functions of the stomach, it is certain that nothing can take the place of the motor function, and the contents of the stomach, however much they may be acted upon, whether sufficiently or insufficiently, by the gastric juices, must be propelled out of the viscus by the contraction of the muscle tunics. Thus, then, it may be reasonably assumed that the primary effect of obstruction will be to place increased work upon the muscle layers, and the amount of work which they are called upon to perform will be in direct proportion to the amount of obstruction they have to overcome. It is more than likely that the increased pressure to which the contents of the stomach are subjected in the greater effort of the viscus to rid itself of its digested ingesta may deleteriously affect the normal secretion of the gastric juices both quantitatively and qualitatively. But however this may be, and possibly it is only a factor of moment in cases of considerable and prolonged obstruction, it is the effect upon the muscle tunic that determines the interesting symptomatic vagaries of the condition, and therefore the factor which is deserving of most attention.

Consider for a moment the parallel illustration of any voluntary muscle of the body which is called upon to undergo prolonged exertion. If the exercise or work to be done be of an intermittent type, the periods of rest and increased requirements lead to a compensatory development, which, up to a certain pitch, succeeds in always accomplishing the ends required. If, however, there be no periods of rest interposed weariness supervenes, and an entire failure of accomplishment ensues. Introduce another factor into the scheme, fail to supply the body with proper or sufficient nourishment and muscular inertia will be rapidly felt. Forgive such a very trite and simple illustration, but you see its application. The stomach does for a time, and that in direct proportion to the amount of obstruction it has to overcome, succeed in carrying out its normal functions. Its muscle tunic hypertrophies, and it continues to drive out its contents successfully; but as time goes on it becomes more and more susceptible to influences which may reach it either by way of the nerve system or the blood-supply. Thus, causes of various kinds which arise from nerve exhaustion or imperfect or improper metabolism affecting the constitution as a whole influence the struggling stomach in particular. Muscle inertia ensues, and instead of the viscus propelling its contents through the obstructed orifice, the latter remains, only in part it may be, pent up in the gastric cavity, awaiting the time when the muscle parietes shall have regained sufficient energy to effect total ejection. The sequence of events, however, may not prove so simple as thus far they may appear. For when, for the reasons given, the stomach is unable to expel its contents, it may through sheer weariness of effort relax its endeavour and give way to passive dilatation. To what extent this may go and how long it may last will depend upon the nature and degree of the obstruction, and the general physical state of the patient. Herein you will see, I think, enter the symptomatic vagaries of the disease; for there is no telling when the symptoms may subside; exactly why they should appear; nor why they are of the nature manifested; and yet, taking these considerations collectively, they furnish the best clues to the true nature of the complaint.

## ILLUSTRATIVE CASES.

Let me now reverse the picture; depart from what I have termed the "text-book" style of describing the disease and approach it from the purely clinical aspect, that aspect of it which we encounter in our practical daily life. And I cannot do this better than by introducing a few typical cases. Here is one just as it presented itself to me at the outset.

I received a letter from Dr. J. R. F. Cullen of Alexandria stating that he had a man under his care, aged 30 years, who was seized periodically with attacks of epigastric pain occurring every few months, but varying in severity and duration, lasting from two or three to ten days at a time. These attacks had more recently been coming on at gradually lessening intervals. He (Dr. Cullen) had reason to believe that the symptoms were gastric in origin, for he had been able to elicit evidences of dilatation of the stomach. He asked me to take him under my care. Owing to there being no vacant beds in my wards at the time, some weeks elapsed before he was written for. It was then ascertained that he had gone for a holiday. Later, I received a second letter from Dr. Cullen saying that the patient had returned from his holiday; that he had so greatly improved as to be quite free of all gastric symptoms.

[1] Brit. Med. Jour., 1904, vol. i., p. 416, and 1908, vol. ii., p. 71.
[2] Ibid., 1908, vol. ii., p. 68

Dr. Cullen asked me in the light of that report what was my opinion of his case, and what I would advise. I based my reply on experience I had already derived from the past histories of cases of partial pyloric obstruction: that if the patient were suffering from such a condition he would, as soon as he returned to his ordinary mode of living and customary work, have a recurrence of his symptoms. It was not long after this that I again received a letter from Dr. Cullen saying that the man had a return of all his old symptoms. He was accordingly admitted to the infirmary. His condition on admission was that of a man in good health; he was well nourished and had no complaint, except occasional attacks of severe epigastric pain. Physical examination of the abdomen revealed some tenderness of the skin and resistance to pressure in the epigastric region, but there were no evidences of gastric dilatation. If careful with his food he did not suffer any discomfort. In going into the history of his case it was ascertained that his illness commenced about three years previously, and that Dr. Cullen at that period believed him to be suffering from duodenal ulcer. I need not trouble you further with other clinical facts; it was sufficiently clear that the man had partial obstruction at or about the pyloric orifice, and that this was in all probability due to adhesions or cicatricial contractions, the result of an ulcer still active or healed. The operation proved the correctness of the diagnosis; and the performance of a gastro-jejunostomy afforded complete and permanent relief.

Another case I should like to relate, because though similar in most respects it differed in other features of instructive interest. The patient was under the care of Dr. W. Turner of Saltcoats, who first brought him under my notice. Dr. Turner, in his original communication to me, told me that he had a patient whom he thought must have some obstruction at his pylorus. He detected what he considered a sign of dilatation of the stomach—that is, he had at certain times elicited splashing; and from other symptoms present he had little doubt that operative treatment was the only thing to afford him any relief. Owing to considerable pressure at that time upon the accommodation of my male ward the patient, as happened in the previous case, could not be admitted, so that some time elapsed before he was written for. But when he did receive intimation that a bed would be ready for him on a specified date he replied that rest and treatment had so improved his condition that, after all, he thought it would not be necessary for him to enter the infirmary. He accordingly returned to his work and his usual mode of living. However, it was not long before I received a letter from Dr. Turner saying that his patient was as bad as ever, and would I take him in as soon as possible. He was therefore admitted, when we obtained the following history of his illness. He was 50 years of age. Up to five years ago he had enjoyed perfect health, but at that time he was seized with fairly severe pain in the epigastrium. This pain radiated to both sides, to the back, and sometimes to the right shoulder, which he stated he could relieve by rubbing. The pain did not come on until some time after a meal, and he could obtain relief by taking something more to eat. He was constipated during this attack, and noticed that his stools were like tar. His illness lasted for four weeks. He recovered completely, but a second and similar attack seized him a year later at the same period in the spring. For three successive springs he suffered much in the same way; but indigestion became a more marked feature. Flatulence and eructations of very sour material which seemed to scald his throat were troublesome symptoms. Vomiting also became frequent; and he soon found that if he did not empty the contents of his stomach he would not get relief of the pain. During the past year the recurrence of his gastric symptoms had become much more frequent, and he had been obviously losing weight. On admission to the infirmary he had all the appearance of a healthy, well-nourished man. There was seen gastric peristalsis, but further than this there were no evidences of gastric dilatation. Some of the vomited material showed the presence of sarcinæ. I need not lengthen the clinical aspect of the case. As in the previous case narrated, the symptoms pointed to a partial contraction of the pylorus the result of a healed duodenal ulcer; and to the need of operating. At the operation the pylorus was found fixed under the lobe of the liver; and just beyond was a thickened mass apparently embracing the whole bowel. Gastro-jejunostomy was performed, and the patient made a rapid and uninterrupted recovery.

These two cases illustrate organic lesions the result of a pathological process; but I should like to give you an example of partial obstruction due to a developmental defect—to what I have designated as congenital narrowness of the pyloric aperture; it, of all forms of obstruction, seems to present the most striking symptomatic vagaries. No two cases are ever alike. In the case I am about to briefly narrate the patient was a female aged 37 years. She had for several years suffered from what she described as "a weak stomach." She sometimes remained quite free from symptoms for several months, but with any indiscretion of diet she would have an attack of indigestion coupled with pain and sometimes vomiting. Her appetite was good and her bowels regular. As her attacks of indigestion were becoming more frequent she sought admission to hospital. At this time her stomach had become so intolerant of food that she was living on slops. On admission there were marked evidences of dilatation; the stomach when artificially distended with gas reached to 2 inches below the umbilicus; there was succussion, and at one time it was thought peristalsis was seen. Sarcinæ were obtained in one of the "wash-outs." At the operation a uniformly narrowed pyloric aperture was felt, the index finger being unable to enter the orifice. There were no evidences of ulceration or cicatrisation. Posterior gastro-jejunostomy was performed. The patient, when seen more than two years after, was taking ordinary food, and free of all gastric symptoms. It would be easy for me to give other illustrative cases; but these, I think, are sufficiently typical to bring out the salient features of the condition under discussion. And now let me ask you to give more particular attention to what these salient features are.

### SIGNIFICANT FEATURES.

1. In the first place, there is about the general appearance of these patients usually nothing to suggest a constitutional disease; in other words, the gastric symptoms appear to be dependent solely upon disturbances affecting the viscus itself; indeed, there is often an appearance of health and robustness about them, and between their attacks they are quite well. In those cases where the patients are thin it is not the thinness suggestive of a constitutional disease, but simply an emaciation due to lack of sufficient nourishment.

2. When a careful examination is made into the initial symptoms of the case it will be found, in not a few instances, that the patient had suffered from some more or less acute seizure suggestive of ulceration; that is to say, there had been acute epigastric pain coming on some hours after food, and, perhaps, relieved by taking more food, followed, it might be, by vomiting blood or the passage of blood in the form of tarry stools. But it is by no means uncommon to meet with cases where no such suggestive symptoms previously presented themselves; indeed, nothing more may be elicited than that, for some inexplicable reason, the patient began gradually to find that certain foods disagreed; that he had to be increasingly cautious both as regards the quantity and the quality of the nourishment taken. Without such precautions he became conscious of a sense of weight in the epigastrium, and sometimes of pain; and relief was at once obtained by removing the contents of his stomach either by making himself vomit or by using the stomach tube. While this is the kind of history sometimes obtained in cases of ulceration with cicatrisation or formation of external adhesions, it is usually that elicited in cases of congenital narrowness of the pyloric aperture.

3. Another cause of the exacerbation of their symptoms is found in anything that has an enfeebling effect upon the constitution as a whole. If from undue exertion, mentally or bodily, from worry or over-anxiety, the patient is reduced to a state below par, the same diminished sense of physical and physiological fitness is felt by the stomach, which thereby becomes less capable of overcoming the difficulties it will already have been called upon to encounter in a partially obstructed pyloric aperture.

4. It will nearly always be noted that while at the outset the attacks are few and far between they gradually increase in frequency, and as they become more frequent so they become more severe. At first a little attention to diet for a day or so may put matters right; but a time comes sooner or later when the patient finds it necessary to vomit if relief is to be obtained. This sequence of events is most suggestive

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because it indicates two probabilities—one, an increasing narrowness of the pyloric aperture; the other, that the stomach is beginning to fail in its power to overcome the obstruction. The patient further begins to note that the attacks are in some instances dependent on the nature of the food taken. There is the greatest possible variety in the kinds of foods which different patients can tolerate; but sooner or later, as the orifice becomes narrower and more constricted or the stomach enfeebled in its power of propulsion, the food has to partake of a fluid, or what is termed of an easily digestible character. These are significant features in the case and useful from a diagnostic point of view, because it is sometimes possible to make still further certain of their clinical value by actually evoking them at will by giving a liberal normal diet.

5. Considering, now, local manifestations, such as are obtained by a physical examination of the stomach, both from within and from without, it will be found that considerable differences exist in patients, and in the same patient at different times. These differences, indeed, may be said to constitute some of the principal symptomatic vagaries of the condition under discussion. We may have marked evidence of a dilated stomach at one time, distinct gastric peristalsis at another, and at another there may not be the slightest evidences of the existence of such signs. The reason for these irregular manifestations is such as I have already indicated at an earlier period of my remarks. When the evidences are negative it is that the stomach is successfully overcoming the obstruction, and when positive it is that for the time being the effort is exaggerated and peristalsis is visible, or it has failed and dilatation results. Therefore, as in the two cases narrated, both Dr. Cullen and Dr. Turner detected dilatation when the patients had an "attack," but when they had recovered, as at the time of entrance into the hospital, no dilatation was found to exist.

In considering this condition of dilatation it should be noted that until very advanced stages of the complaint the dilatation is never extensive nor prolonged. A little rest and attention to diet usually causes it to disappear. In this particular respect, therefore, this class of cases differs very markedly from that where there is for the time being complete obstruction owing to some special peculiarity about the nature of the lesion and its relation to the stomach. Under the title of "intermittent pyloric obstruction" Dr. T. R. Bradshaw of Liverpool, in a recent address,[3] referred to two cases and to another of Sir William Broadbent quoted by Sir Clifford Allbutt,[4] where, owing to the existence of adhesions, an altered position of the stomach led to a complete obstruction of the pyloric orifice. The symptoms under such circumstances were of necessity severe and exaggerated, and could not fail to suggest the true nature of the complaint. It is quite possible, however, that these cases should really be regarded as only advanced and exceptional instances of those about which this paper specially deals; for one may fairly assume that before the accident of complete obstruction ensued there had been gastric attacks indicative of partial obstruction, recovery from which usually followed the taking of certain simple precautions. Coming under this particular class, and yet partaking much, if not more, of the one under discussion, I may briefly refer to the following which I treated.

The patient was sent to me by Dr. John Garey suffering from dyspepsia of a chronic and intermittent type with occasional evidences of dilatation of the stomach. The patient was a particularly healthy looking woman aged 31 years. Her symptoms began about 12 years before with attacks of indigestion represented by flatulence, eructations, a sense of fulness and weight after food in the epigastrium, and occasional attacks of pain. The pain was usually felt about two hours after food, and she discovered that she was relieved if she at such times took food. Within the last few months her symptoms had considerably increased, pain being felt not only in the epigastrium, but in her side, back, and upper part of left arm. The most striking feature about her case was, however, that if she lay down after taking a meal she suffered but little; whereas getting about her ordinary work always caused severe attacks of indigestion. On admission to hospital there were distinct evidences of dilatation of the stomach. She was given a test meal and ordered to remain in bed. The wash-out six hours after was perfectly clean. The same meal was given, and the patient allowed to be up and about; and when the stomach was washed out after the same interval a copious residue existed. At the operation there were external evidences of thickening and cicatrisation about the pylorus, and when the finger was introduced for examination of the aperture, marked induration was felt at the anterior and lower part of the orifice. The orifice itself was much narrowed so that the index finger could only with force be driven through. A posterior gastro-jejunostomy was performed, and the patient made an uninterrupted recovery.

This case presents a very striking resemblance to that of Sir William Broadbent's already referred to. In that case the patient, when retiring to rest, was conscious of the escape of the gastric contents into the intestine, and the disappearance of all gastric symptoms; in the erect position the evidences of gastrectasis with retention were marked. At the post-mortem a non-malignant, non-stenotic thickening of the pylorus was found; this during life apparently did not cause stenosis except when the patient was in the erect posture, and then did so by inducing an acute flexion of the part at the point of suspension.

6. Other evidences of partial obstruction are to be found in the constitution of the contents of the stomach as determined after removal. Thus it frequently happens that though the patient in the intervals of the attacks has but little to complain of, nevertheless, if the stomach be washed out, say six hours after a test meal, a certain amount of material, digested and undigested, is present as a residuum. This unmistakeably indicates that the stomach is not completely emptying itself, as it would otherwise do in the time if no obstruction existed. Furthermore, the presence of fermentation products such as lactic acid, and the detection of sarcinæ, attest to a similar cause.

If, Gentlemen, in conclusion, I were to express in the briefest possible way what I consider are the points of most significance in partial pyloric obstruction, I should say: intermittent attacks of dyspepsia, coupled at such times with the physical signs of gastric peristalsis or gastrectasis in often otherwise healthy patients.

[3] THE LANCET, August 20th, 1910, p. 537.
[4] System of Medicine, vol. iii., second edition, p. 535.

# A Lecture
ON
# SOME INDICATIONS OF INBORN PROCLIVITY TO GOUT.

*Delivered at the London School of Clinical Medicine*

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GENTLEMEN,—I propose to direct your attention to-day to some points of clinical interest in regard to the recognition, especially in young subjects, of a proclivity to gout in its many forms.

We are, perhaps, rather disposed to consider such manifestations, if we recognise them at all, as parts of the disorder in persons who already present obvious signs in some locality of a definite and appreciable gouty process. This entails, of course, a prompt diagnosis. What I recommend to your consideration is the study of any indications of a constitutional nature which are apt to precede any classical or obvious lesions, and give token of what may in due time be likely to follow. These are naturally more likely to be met with in the younger members of families who are distinctly the subjects of gouty disorders, but they are to be found in young persons who belong to families in which there are no well-marked or classical declarations of this tendency, but yet present some indications of it if carefully sought.

### DIATHESIS IN THE GOUTY AND IN THE STRUMOUS.

This particular study is of interest for several reasons. It brings us at once to regard the individual patient as a special subject of investigation, and not merely to regard his ailment, and leads to an inquiry, as full as may be, respecting family history, antecedents, and environment. Again, it

brings us in face of a modern view, which I may say does not commend itself to me, to the effect that gout is a manifestation of systemic toxæmia dependent on microbic influences generated in the alimentary canal. How such a pathogenic process is established and rendered active in the systems of growing youths and maidens, and proves effective in producing such indications as I am about to describe, I quite fail to understand. I view the matter from a very different standpoint, regarding these phenomena as dependent on a certain habit of body, or diathesis, connected with a peculiarity of textural metabolism, differing materially, but very definitely, from the normal, and constituting individuals with this specific endowment as generically different from those not so affected. I come thus to agree with Lancereaux [1] who, in the last work published at the end of his splendid career, suggested that gouty people may almost be regarded as a separate race in any community.

We may usefully set down here, by way of contrast, the peculiarities relating to individuals of a very different habit of body—viz., the scrofulous or strumous, who also present certain qualities of tissue-proclivity with tendencies in certain directions under varied provocation. We know that such subjects are distinctly prone to become the victims of tuberculous invasion, and that their textures react badly to all varieties of microbic invasions, including syphilis. Here, again, I no more regard the characters and features of the strumous individual in his uninfected condition as due to any microbic toxins than I do in the case of one endowed with a gouty proclivity. We have in these strumous subjects another example of a diathesis which marks them off as belonging almost to a separate race in respect of their constitution and tendencies. The strumous habit is not, as is sometimes believed, a manifestation of tuberculosis. We meet with some persons of this constitution who have reached old age, and have resisted invasions by many toxic intrusions, but many others fall victims to these unless they are carefully protected and tended.

I wish to lay down this point of contrast by way of preface to my remarks to-day. It is singularly important to note in practice, for we find a remarkable antagonism between these two family proclivities. Thus, the gouty habit is markedly resistant to tubercular invasion. In cases of intermarriage of gouty and strumous persons we meet with a blended constitution in the progeny, and it is of interest to study the outcome of it. Tuberculosis may assail such a progeny, but the process is liable to marked arrest, and the prognosis generally in such cases is distinctly better and encouraging. The degree of resistance may vary in the different members of such a family, but it is strongly manifested. The tendency is for cretification and fibrosis to occur in the several lesions, assuring an arrest of the process. There may be much hæmoptysis in some of these cases, yet the prognosis is for arrest and chronicity—a very important matter.

Such facts as these should indicate to you the importance and, indeed, the necessity for study of the family and personal peculiarities of each patient you deal with. We study not only diseases, but the subjects of them.

### MANIFESTATIONS OF THE GOUTY HABIT.

It is noteworthy that the characters of the gouty constitution are not readily recognisable in infancy. The general nutrition is good, the bones and muscles are well developed, and the head is large and well formed. The first tokens of the tendency may be observed in the vascular system. Some degree of venous fulness and slight dilatation of superficial facial capillaries, constituting what is sometimes called a "rosy" face, may be noted. The teeth are generally good in both sets and well enamelled. The nails are apt to be striated longitudinally, and brittle. Later in life may be noticed a special delicacy and susceptibility of the fauces, leading to attacks of tonsillitis with enlargement of these organs and the naso-pharyngeal glands. This is remarkable, because, as a rule, the lymphatic system in goutily disposed persons is not irritable or specially sensitive to localised manifestations of gout in after-life.

So-called "growing pains" are met with in the lower limbs without any pyrexia. Such pains, I may remind you, are now properly regarded as tokens of minor rheumatic disturbance in children, but we have to remember that the latter disorder is a specific exogenous infection prone to alight on subjects of this particular habit of body we are considering to-day (the arthritic), just as tuberculosis constitutes the predominant infection to which strumous subjects are most liable. The peccant matters inducing active gout are endogenous. The capillary circulation is slow and languid, and pressure on the integuments indicates delay in filling up the emptied superficial vessels. The extremities are apt to be cold. These young subjects are very sensitive to cold and damp, apt to suffer from chilblains, and do not thrive well in proximity to the sea in exposed situations, responding distinctly better to inland, somewhat elevated, districts.

Attacks of classical gouty arthritis may sometimes, though rarely, supervene even before puberty, and deposits of urates, to the extent of tophi, have been met with early in the second decade.[2] In these early periods there may not be any specially noteworthy conditions of the urine. Uratic deposits are not common unless there is obvious dyspeptic disturbance due to errors of diet and over-feeding with rich food. A matter for inquiry relates to the possible incidence of cyclical albuminuria during adolescence in some of these subjects, and this tends to an associated study of the vagaries of arterial blood pressure in the younger members of gouty families. A tendency to epistaxis in both sexes in early life should direct attention to the constitutional habit and family history in such cases.

As time goes on, we may meet with more decided evidence of gouty ailments and peculiarities, varying according to the environment and habits of life pursued. One of the earlier evidences of this consists in an inability to digest malt liquors and acid wines in small quantities. Muscular and arthritic pains are apt to occur with varieties of gastro-duodenal dyspepsia provoked by certain foods or combinations of food taken at the same meal. A tendency to hemicrania and neuralgia in the facial and occipital regions is not infrequent in both sexes, the former often setting in at puberty in females. Hepatic disturbance, with pain and fulness, is not uncommon, and biliary calculi may be formed. Fits of mental depression sometimes occur. A tendency to hæmorrhoids and varix may be met with. If gonorrhœal toxin is introduced we may note that it proves more than usually severe in persons of the gouty habit, and proves rebellious to treatment, sometimes leading to the worst complications of this infection. A tendency to varieties of herpes is a peculiarity in the gouty, and in middle life, or later, zoster is very apt to occur with severe neuralgia as a sequel. In females we meet with menstrual disturbances not infrequently; thus, suppression may continue for months, or there may be menorrhagia. Severe epistaxis may occur during the period of suppressed catamenia, arising with slight provocation, or as part of an attack of ordinary coryza. I am not prepared to indicate, or suggest, any specific connexion between these two events, after the manner of the older physicians who regarded this as in some way vicarious, but I simply recall my experience of such cases. Towards the grand climacteric we may note a long and tedious period of disturbed health, with liability to profuse flushings and sweatings which depend on vaso-motor nervous instability.

Towards the fourth decade there may occur regular, or irregular, or incomplete manifestations of the gouty habit. These vary materially according to the dietetic and other habits of the individual, and no less to the degree of proclivity inherited from ancestors on both sides of the family. Lumbago, sciatica, and neuritis in various parts of the body come into the category of the incomplete manifestations of the habit, together with vague pains and affections of tendons and their sheaths, fibrositis, and fibroid nodules. Deep-seated pains in the bones of the arms—e.g., condyles of the humerus, os calcis, &c., apt to be lingering and tedious, with pains in the tongue, tenderness of the dental periosteum, and creakings in the neck. Thus, we meet with sthenic or asthenic, or "poor" gout, according to the general vigour or poverty of the individual constitution.

We may affirm that gouty fathers appear to lay a heavy burden on their daughters who, as a rule, are less inclined and exposed to the conditions which intensify or aggravate gout in their sons, and so many cases of atonic gout, with irregular manifestations of the disorder, are met with in females who have led most prudent lives. You will readily

[1] Traité de la Goutte, Paris, 1910.

[2] Vide Proceedings of the Royal Society of Medicine, vol. iii., November, 1909.

understand that such patients gain little benefit, indeed, rather much harm, from a jejune and *doctrinaire* dietary which some authorities imagine to be necessary for all gouty patients. This is an example of treating the disease rather than the patient, a not uncommon practice even in these days.

### TREATMENT.

With respect to the treatment of those persons who are goutily disposed by inheritance in any degree, it may be said to consist mainly in an appropriate nutrition with some restriction of animal food and a limited amount of saccharine matters, especially of food cooked with sugar and fatty material. Meals consisting of animal food and carbohydrates, with sugar, taken at one time, are found to be imperfectly digested by such persons. An open-air life, especially in inland and somewhat elevated districts, is desirable. Water much impregnated with lime is improper. Marine districts, especially in exposed situations, are apt to be unfavourable for most of these subjects.

Occasional aperients, containing some mercurial, are of especial value. In cases of an asthenic type, especially in young girls with feeble circulation and tendency to chilblains, it may be desirable to employ a small quantity of some red wine—Bordeaux or Burgundy—well diluted with water, with the principal meal in the day. Exposure to cold and damp is especially to be avoided.

## ON THE SUPRAPUBIC TRANSVERSE FASCIAL INCISION IN GYNÆCOLOGY.[1]

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LECTURER IN MIDWIFERY AND GYNÆCOLOGY IN THE UNIVERSITY OF BIRMINGHAM; OBSTETRIC OFFICER TO THE GENERAL HOSPITAL; PHYSICIAN TO IN-PATIENTS TO MATERNITY HOSPITAL, ETC.

FOR many years the median longitudinal incision between the pubes and the umbilicus has held pride of place in operations on the uterus and its appendages. It fulfils the first essentials of giving direct access to the seat of operation, and providing sufficient room for the necessary manipulations on either side of the pelvis or lower abdomen, and it has the advantage of being readily enlarged when required. The division of the linea alba was recommended as the most convenient, because here no vessels or nerves of importance are encountered, while drainage by tube or gauze can easily be arranged. With increasing experience the main disadvantage of this incision, its liability to be followed by hernia, came into ever greater prominence. Hernia was especially apt to follow in cases where drainage was provided, or where healing was attended by suppuration, but it not rarely followed healing by first intention. Thus Abel observed hernia in 81 per cent. of cases where deep suppuration occurred in the incision, in 45 per cent. of superficial suppurations, and in 6 per cent. of cases where primary union was obtained.

To bring about a diminution in the frequency of ventral hernia efforts were made in various directions. Suturing in stages, and especially the careful suturing of the two most important layers, the peritoneum and the fascia, effected a marked improvement. Thus Winter reported that the separate suture of the fascia had reduced the percentage of ventral herniæ from 23 to less than 12 per cent. By some operators the peritoneal incision was made to one side of the middle line, so that it might be supported by the strong longitudinal rectus muscle. The sheath of one rectus was opened ¾ inch or so from the middle line, and then by blunt or sharp dissection the muscle itself was divided in the direction of its fibres. This was objectionable, because the nerve-supply of the mesial portion of the muscle was divided, with the result that this portion of muscle atrophied and became a weak part of the abdominal wall. The method was improved by Lennander, who divided the front of the sheath in the same way, and then displaced the rectus externally in order to open the posterior layer of the sheath from ½ to ¾ inch from the middle line. The disadvantages of this incision are that access is not easy, especially to the structures on the other side of the abdomen; that the room provided by an equal length of incision is decidedly less than in the case of the median incision; and that the wound cannot be so conveniently lengthened if required.

The first transverse incision was made for the purpose of affording sufficient access in specially difficult operations on the pelvic contents. Thus Mackenrodt in extensive operations for uterine cancer adopted the transverse curved incision previously devised by Bardenheuer. This semilunar incision extended across the whole lower abdomen from one anterior superior iliac spine to the other, curving downwards to a little above the pubes, and it divided all the structures of the abdominal wall, including the fascia, the rectus muscles, and the peritoneum. Healing was tedious and apt to be attended by suppuration, and there was a great liability to hernia. The incision has therefore never come into favour. The next suggestion for a transverse incision in gynæcological operations was intended chiefly to avoid the formation of a broad and unsightly scar, such as not infrequently results, especially in nulliparæ, from a longitudinal incision. In the middle line, and especially on either side of it, a longitudinal incision divides the bundles of fibres of the true skin across their long axes, and there is consequently a marked tendency for the lips of the wound to retract. It was therefore recommended by Küstner and Rapin that a transverse incision through the skin and superficial structures should be made a little above the pubes, the division there following the general direction of the fibres of the cutis, so that there would be no tendency for the edges of the incision to be drawn apart, even if primary union failed. The fascia and other deep structures were divided as usual in the middle line, so that this method of incision had no influence in preventing the formation of a hernia. It was, however, based on the correct and important principle of dividing fibrous structures whenever possible in the direction of the fibres instead of across them.

It was Pfannenstiel's happy inspiration to carry the transverse incision a step deeper by dividing the fascial sheath of the recti as well as the superficial structures, and in this way to afford a strong additional safeguard against subsequent hernia. The sheaths of the recti are formed by the union of the tendinous expansions of the three great flat muscles of the abdominal wall. Below the semilunar folds of Douglas all three aponeuroses pass in front of the rectus to decussate in the linea alba with the corresponding structures from the other side. The general direction of the fibres forming these strong sheets is in the line of pull of the muscles which they serve as tendons, and is, roughly speaking, transverse. A longitudinal incision through the sheath of the rectus or the linea alba therefore cuts across the fibres, and union is relatively weak and yielding, whereas a transverse incision runs nearly parallel to the direction of the fibres, and union takes place readily and firmly. The effect of contraction of the abdominal muscles in tending to bring the edges of an incision in the fascia together can occasionally be seen during an attack of retching and straining arising during the insertion of the sutures. It would be correct to describe Pfannenstiel's incision as the longitudinal section of the fascia, contrasting it with the usual division in the middle line, where the fibres of the fascia are cut transversely.

The method of making the incision is as follows. A transverse incision from 3½ to 4 in. in length, slightly curved with the concavity upwards, is made about two fingers' breadth above the pubes and carried down through the subcutaneous fatty tissue and the deeper layer of the superficial fascia to the sheaths of the recti, which are then also divided transversely by knife or scissors to the full extent of the incision. The sheath of each rectus can then be easily raised by passing a finger between it and the muscle, the flap of fascia being readily drawn up except from the middle line where the pyramidales muscles are inserted into the fascia, and require a light touch of scalpel or scissors. The flap of fascia having been well pulled up in the middle line, the recti are pulled apart by retractors and the transversalis fascia and peritoneum are divided longitudinally in the usual manner. If more room is required at the lower part of the incision the lower ends of the sheath of the recti can be separated from the muscles in a similar manner, and the peritoneal incision then continued downwards. It is usually advantageous to fix the end of the upper flap by suturing the fascia to the skin below the umbilicus; the suture acts as a retractor and facilitates subsequent manœuvres. If required, more room can be obtained by extending laterally the incision through the skin and fascia and pulling up the fascial flap to a higher level. In this extension the incision is prolonged to

[1] A paper read at the Birmingham Branch of the British Medical Association, Feb. 16th, 1911.

a point where the fascia separates into its constituent layers, but this makes no difference to the subsequent suturing.

At the close of the operation the peritoneum with the transversalis fascia is first brought together by continuous or interrupted catgut sutures. Two or three catgut sutures then bring the muscles together in the middle line, and are tied gently so that the muscular fibres may not be cut across; one of these sutures should be placed at the level of the transverse incision through the fascia, the only position at which hernia may possibly develop later. The fascia is then brought together by interrupted catgut sutures; or the skin and fascial layers may be brought together by deep silkworm-gut sutures. My own practice is to introduce two silkworm-gut sutures, one on each side of the middle line, and then to suture the rest of the fascia with interrupted catgut. Finally, the edges of the skin are brought together with silkworm gut. In closing the incision it is desirable to make sure, by sponging and pressure, that no collection of blood and no empty space are left between the different layers, especially between the fascia and the surface of the muscles.

To secure perfect coaptation it has been recommended to place over the wound a sand-bag weighing from 2 lb. to 9 lb. for the first 24 or 48 hours. This was tried in a series of my cases, but has since been discarded. The subsequent use of an abdominal belt is unnecessary, and this is fortunate, because owing to the position of the cicatrix it appears to be impossible to devise a belt that will afford effective support.

I have employed this incision in upwards of 120 operations on the uterus and its appendages, and am using it more frequently with increasing experience of its advantages. It affords direct access to the whole brim, and especially to the sides of the pelvis, where manipulations are more easily carried out than through the classical median incision. This facility depends upon the fact that the fascia having been raised from the rectus muscles these are much more easily drawn out of the way by retractors or the fingers of an assistant; as pointed out by Döderlein, the muscles are now like soft rubber bands. In several cases where it has been necessary to remove the vermiform appendix in the course of a gynæcological operation, I have found the incision give full and easy access for the purpose.

The operations which I have performed with the aid of the transverse incision include 42 hysterectomies and myomectomies for uterine fibroids. In these the largest tumour was of the size of a man's head, and many extended as high as the umbilicus. In 17 cases of cysts and tumours of the ovary, the largest reached the size of a football. The list further includes 22 operations for inflammation of the uterine appendages and pelvic peritoneum, of which 12 were suppurative; 23 abdominal fixations for uterine prolapse and retroversion, 5 cases of tubal gestation, the radical cure of a vesico-vaginal fistula where two operations through the vagina had failed, and 3 abdominal operations for uterine cancer after Wertheim's method.

It was at first objected that gangrene of the flap of the fascia might be expected, but experience has shown that this does not occur. The vascular supply to the fascia is not understood, and anatomists have nothing to tell us on the point. The vessels presumably course partly along the fibres from the vessels supplying the flat muscles and partly penetrate the fascia from the overlying connective tissue. Wide separation from the recti can be made without any apparent injury to the nutrition of the fascia. The incision heals well. In 13 of my cases there has been some suppuration of the wound; with two exceptions this occurred in cases of uterine cancer or suppurative inflammation of the appendages, where it was impossible to avoid infecting the wound during the operation. In another case a hæmatoma under the fascial flap caused swelling and tenderness for more than three months. In about a fifth of the remaining cases there were collections of serum in the wound, whether due to imperfect coaptation or to the use of iodine catgut is uncertain. When the serum was let out the surfaces fell together, and union promptly followed without suppuration. In the remaining cases healing by first intention was perfect.

Since my first case dates back only some two and a half years I am unable to speak from personal experience as to the occurrence of ventral hernia; I have seen none so far. The percentage occurrence appears to be less than half that following the use of the vertical incision. Pfannenstiel himself in 198 cases found one hernia only. Kroenig in 127 cases found 4 hernias—3·1 per cent.—two of them occurring after the wound had healed by first intention.

I believe the incision is the best that has yet been devised for the ordinary run of gynæcological operations, including fixations and operations for inflammatory conditions, extra-uterine gestation, and for uterine and ovarian tumours not extending higher than the umbilicus. In larger tumours, especially where there are extensive adhesions or where the upper connexions are uncertain, it is better to employ a median vertical incision, which can readily be extended as high as required. In the largest transverse fascial incision that I have made the division of the peritoneum and transversalis fascia extended upwards to 1½ inches above the umbilicus, but I think it is better as a rule to reserve it for tumours which do not extend higher than the level of the umbilicus. For exploratory incisions in diffuse abdominal conditions, or where it is desirable to investigate the contents of the upper part of the abdomen, the longitudinal incision is to be preferred. Where rapidity in operating is a primary necessity the median incision is better, since it takes rather less time to make and to suture.

In septic cases, as, for instance, in pyosalpinx and in uterine cancer, the vertical incision has hitherto been generally preferred because of the fear of suppuration in the transverse wound, and because of the difficulty of providing drainage through the transverse incision. In gynæcological operations drainage is now generally provided when necessary through the vagina, and it is rarely necessary, or even desirable, to drain through the abdominal incision. The fear of the consequences of suppuration in the transverse incision is, in my opinion, not well founded. It is quite easy if desired to drain the spaces between the fascia and the rectus muscles by small rubber tubes or strips of gauze, brought out at each lateral angle of the incision; and even if suppuration does take place the fact that the fascia and skin are divided parallel with the general direction of their fibres makes gaping less and allows the surfaces to fall together, so that a scar results which is less likely to lead to hernia than one following suppuration of a median longitudinal incision. Klotz in Sellheim's cases found among 84 in whom the healing of the incision was accompanied by suppuration six patients who showed small defects in the fascia without hernia and three in whom hernia had developed. All these nine cases had been well drained or had shown extensive suppuration. I have myself adopted the incision in three cases of Wertheim's hysterectomy, and in several operations for suppurative conditions of the Fallopian tubes and ovaries, and have found it at least as suitable as the median.

In the Trendelenburg position the transverse incision forms a flap which covers the intestines during the operation, protecting them from handling and from loss of heat and moisture. In many cases, indeed, the intestines hardly come into view during the whole proceeding. The importance of this in minimising shock is obvious; in laparotomy, with the help of the transverse incision, there is in suitable cases no more shock than in similar operations performed by the vaginal route, and in every other respect the abdominal method has the advantage that it gives a better oversight of the parts to be operated upon, and of any adhesions that may require to be dealt with, and that it gives better and more convenient access, so that diagnosis is fuller and operation easier.

To sum up the advantages which I conceive that the transverse fascial incision offers over the longitudinal incision in suitable cases, the first and by far the most important is the lessened risk of ventral hernia. In the next place I consider that in the ordinary run of gynæcological operations this incision affords easier access and more ample room than the longitudinal incision, and especially than the paramedian incision of Lennander. Finally, it is possible that the cosmetic effect may be deemed by some to be of importance; the scar is linear and is concealed by the pubes and by the natural folds of the abdominal wall.

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Birmingham.

# ANEURYSM OF THE INNOMINATE ARTERY; PROXIMAL LIGATURE; RECOVERY.

BY PERCY SARGENT, F.R.C.S. ENG.,

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LIGATURE of the innominate artery is an operation so rarely performed as to justify the publication of an individual case. It would serve no useful purpose to enter into any discussion of the cases previously recorded, for this has already been done by others, notably by W. Sheen[1] and W. B. Burns.[2] Burns found accounts of 45 cases, and added a successful one of his own, bringing the total up to 46, with 9 recoveries. The successful cases are those of A. W. Smythe (New Orleans) in 1864 (a result which is the more remarkable in that the operation belongs to the pre-antiseptic era), Lewtas (India) in 1889, C. Coppinger (Dublin) in 1893, C. J. Symonds (London) in 1894, H. L. Burrell (Boston) in 1896, B. F. Curtis (New York) in 1899, A. J. Hernandez (Mexico) in 1900, W. Sheen (Cardiff) in 1904, and W. B. Burns (Memphis) in 1907.

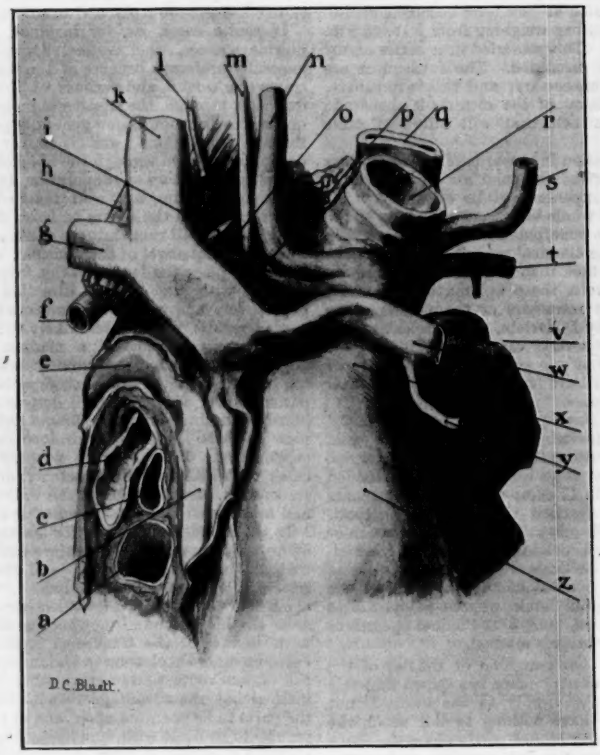
Exactly what "recovery" means is not easily ascertained in every instance. Smythe's patient survived for ten years, and Coppinger's was known to be alive and well two years after the operation. On the other hand, Burrell's case is counted as a recovery, although death occurred on the 104th day after operation.

The case which I now place on record is that of a patient who lived for 17 months after cure of the aneurysm, and who ultimately died from pneumonia and pericarditis.

The patient, a widow, 67 years of age, was admitted to St. Thomas's Hospital, under the care of Mr. C. A. Ballance, on August 12th, 1909. Mr. Ballance, who was at the time away on holiday, kindly came up and saw the patient with me, and advised that proximal ligature should be performed. The patient's previous history was unimportant except for the fact that she had had three children, all of whom had died in early infancy, and one miscarriage; there was no other suggestion of syphilis. Eight weeks before admission the patient had noticed unusual pulsation at the root of the neck on the right side. There was a good deal of local pain, together with some loss of power in the right arm. She had also suffered during the same period from shortness of breath, occasional attacks of cyanosis, and some præcordial discomfort. Her chief trouble was the local pain, together with the noise occasioned by the pulsating tumour.

On examination, there was a pulsating expansile swelling just above and external to the right sterno-clavicular joint; the pulsation could also be seen in the first right intercostal space. The right pupil was larger than the left, and reacted sluggishly to light. Laryngoscopic examination revealed nothing abnormal. The right arm was distinctly weaker than the left, although the patient was right-handed. The pulse in the right radial and superficial temporal arteries was aneurysmal in character, as demonstrated by sphygmographic tracings. Dr. A. E. Russell kindly examined the patient and reported that there was no evidence of gross general arterial disease, and that the heart was not obviously enlarged. The urine was normal. Radiographic examination by Dr. A. H. Greg showed nothing abnormal. The diagnosis made was that of aneurysm, either of the first part of the subclavian artery or of the innominate artery at its bifurcation. After three weeks' rest in bed the pulsating swelling was somewhat reduced in size, though still very obvious, and the pain and throbbing gave the patient rather less trouble.

FIG. 1.




General view of the specimen, showing position of the consolidated aneurysm. *a*, Pulmonary vein; *b*, superior vena cava; *c*, pulmonary artery; *d*, bronchus; *e*, vena azygos major; *f*, right subclavian artery; *g*, right subclavian vein; *h*, scalenus anticus; *i*, vertebral vein; *k*, right internal jugular; *l*, phrenic nerve; *m*, vagus nerve; *n*, right common carotid; *o*, vertebral artery; *p*, right subclavian artery; *q*, œsophagus; *r*, trachea; *s*, left common carotid; *t*, left subclavian artery; *v*, subclavian groove; *w*, left innominate vein; *x*, innominate artery; *y*, left superior intercostal vein; *z*, aorta.

The nature of the proposed treatment and its risks having been fully explained to the patient she decided to undergo the operation, which was accordingly carried out on Sept. 14th, 1909. Chloroform was given by Mr. W. R. Bristow; Mr. C. M. Page and Mr. R. Cox assisted. A median vertical incision was made, having its centre at the suprasternal notch. A large anterior jugular vein was exposed and divided between two ligatures. The greater part of the right half of the manubrium sterni was removed with Hoffmann's forceps, together with part of the first right costal cartilage, but the sterno-clavicular joint was not opened. The sterno-hyoid muscles were separated and retracted. When the superior mediastinum was thus opened into, the left innominate vein was encountered; it was held upwards with a retractor, and gave no trouble. The aortic arch then came into view, and the origin of the innominate artery was easily identified. Both these vessels appeared to be normal at this point. The "sheath" of the artery was then opened and an aneurysm needle was easily passed round the vessel half an inch from its origin. Two thick ligatures of soft floss silk were passed and tied after the manner of the "stay knot" of Ballance and Edmunds. The tightening of the ligatures was accomplished slowly and cautiously until pulsation in the aneurysm was abolished.

[1] Annals of Surgery, 1905.

[2] Journal of the American Medical Association, 1908.

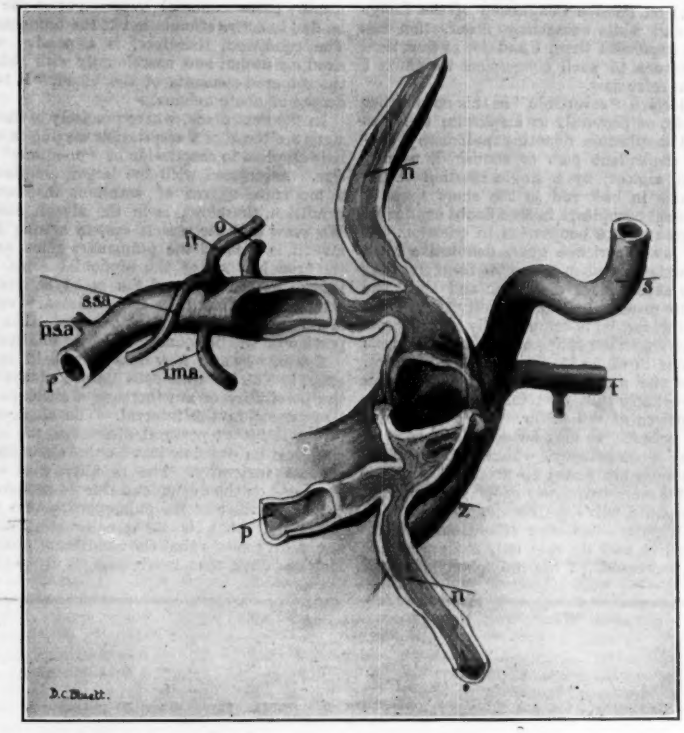
No symptoms of shock were noted. The common carotid artery was then exposed through a small incision at the level of the cricoid cartilage; it was empty, and was tied with a single thread of No. 2 silk. The incisions were closed with sutures of silkworm gut, and the wounds were dressed with plain sterilised gauze. Healing took place by first intention.

On the day after the operation the right side of the face and the right upper limb were cold and pulseless. There was no hemiplegia, nor had the patient exhibited a single untoward symptom. There was no pulsation in the aneurysm. On the sixth day definite pulsation could be felt at the site of the aneurysm, but this had completely disappeared on the ninth day. On the tenth day weakness of the left arm and face was noticed for the first time, the arm being more affected than the face. No loss of power could be made out in the lower limb, nor was there any alteration of reflexes. This weakness soon began to pass off, and when the patient was discharged from the hospital on Dec. 23rd it had almost completely disappeared.

When examined in June, 1910, no residual weakness could be detected; no pulsation could be felt at the site of the aneurysm; the radial pulse, though weak, was definitely present; the heart was not enlarged; the pupils were of equal size; and the patient felt quite well. She remained well until the early part of the present year, when she was admitted into the Camberwell Infirmary suffering from bronchitis and chronic nephritis. She died on Feb. 20th. Dr. W. J. C. Keats, who performed the necropsy, kindly furnished me with the notes and preserved the specimen, from the dissection of which the accompanying drawings have been made by Mr. D. C. Bluett.

The post-mortem examination showed pneumonic consolidation of the lungs, pyopericardium, chronic interstitial nephritis, and arterio-sclerosis. The aneurysm proved to have involved the innominate artery itself (Fig. 1), and the ligature had been applied midway between the aortic arch and the aneurysm. The site of the ligature was marked by an ill-defined groove, over which lay the left innominate vein, but no trace of the silk could be identified. The groove corresponded exactly with the level of obliteration of the artery (Fig. 2). The point of obliteration of the subclavian artery was fully half an inch short of its first branch—namely, the vertebral, the mouth of which can be seen in the opened vessel in Fig. 2. The common carotid artery had been cut, in removing the specimen, below the point of ligature, so that the condition beyond could not be ascertained. The clot occupying the obliterated vessels appeared to be firmly organised tissue, inseparable from the vessel wall, and showing a faint lamination. Only at one spot was there any colouration of the clot—namely, at the left part of the obliterated aneurysm immediately above the site of ligature (Fig. 2). This area was dark brown in colour, in marked contrast to the white clot elsewhere, and contained calcareous material. The face of the clot looking into the subclavian and innominate arteries was perfectly smooth and glistening, and directly continuous with the lining of the arteries. The branches of the subclavian artery through which the collateral circulation to the upper limb must have been chiefly carried—namely, the vertebral, internal mammary, inferior thyroid, and suprascapular arteries—are well shown in Fig. 2. They appear to be distinctly larger than normal, though unfortunately the corresponding vessels of the left side are absent from the specimen, and not available for comparison.

FIG. 2.




Coronal section through aneurysm and adjacent vessels; anterior half turned down. *p*, right subclavian artery; *i m a*, internal mammary artery; *f*, right subclavian artery; *p s a*, posterior scapular artery; *s s a*, supra-scapular artery; *i t*, inferior thyroid artery; *o*, vertebral artery; *n*, obliterated right common carotid; *s*, left common carotid; *t*, left subclavian artery; *z*, aorta.

The chief points of interest in this case are, I think, first the age of the patient; secondly, the ease with which, owing to there being a portion of healthy artery between the aorta and the aneurysm, the operation was accomplished; thirdly, the lateness of onset of, and the complete recovery from, the slight hemiplegia; fourthly, the permanent obliteration of the aneurysm in spite of the fact that the walls of the artery could not long have remained approximated by the ligature; fifthly, the distance between the point of obliteration of the subclavian artery of its vertebral and the origin branch; and lastly, the complete relief to all the symptoms afforded by the operation.

Harley-street, W.

ROYAL SOCIETY OF MEDICINE.—At the Surgical Section of the Royal Society of Medicine on Tuesday next, May 9th, at 5 P.M., there will be a demonstration of cases of cleft palate operated on by various methods, and followed by a debate to be opened by Mr. Arbuthnot Lane. The following will also take part or will demonstrate cases: Dr. Ulrich (Copenhagen), Mr. A. W. Murray (Liverpool), Mr. Harold J. Stiles (Edinburgh), Mr. Edmund Owen, Mr. Douglas Drew, Mr. F. F. Burghard, Mr. G. E. Waugh, Mr. Barrington Ward, and Mr. T. H. Kellock. The meeting will be held in the rooms of the Medical Society at 11, Chandos-street, Cavendish-square, W.

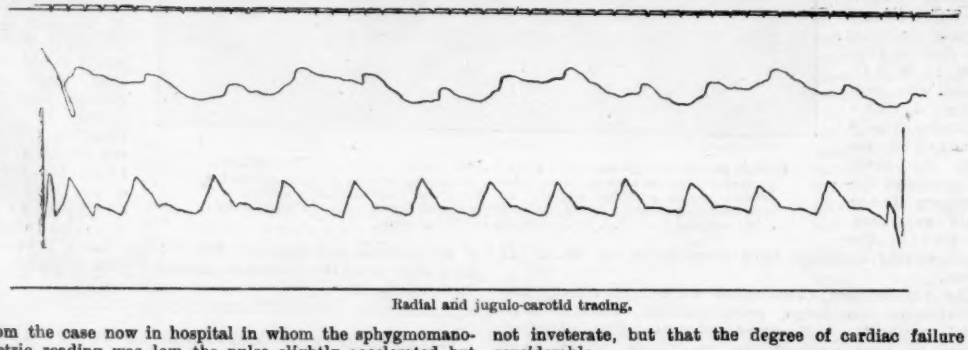
# ON REVERSIBLE PULMONARY CREPITATION IN CARDIAC FAILURE.

BY ALEXANDER MORISON, M.D. EDIN., F.R.C.P. LOND. & EDIN.,
SENIOR PHYSICIAN TO THE GREAT NORTHERN CENTRAL HOSPITAL.

I HAVE at present under my care in the Great Northern Central Hospital a patient exhibiting in a marked degree a phase of pulmonary congestion in association with cardiac failure which I have from time to time observed, and which has no doubt been observed by many others, but to which special attention, so far as I know, has not been drawn. It is, however, a striking clinical phenomenon and deserves, I think, to be rescued from the general conception of passive pulmonary congestion, as it has, I believe, a certain significance of its own. A considerable time has elapsed since I contributed an article to the original *Practitioner* (Vols. XLIX. and L.) on Passive Congestion of the Lungs from Heart Failure, and while subsequent observation has confirmed the views I expressed then, I had not at that time noted the special feature in such congestion to which I propose very shortly to refer now.

I have used the adjective "reversible" in this note rather than hypostatic, static, or postural, to emphasise the fact that the well-marked crepitation denoting pulmonary congestion in the most dependent part is abolished, usually altogether and always almost, by a single rotation of the patient on his own axis in bed, and in the short space of time which that movement occupies, a fact no doubt explicable by the nature and degree of the congestion in question. It is always, so far as my experience goes, denotative of a grave degree of cardiac failure when reversible from one lung to the other, but may nevertheless disappear and leave the patient in a position to resume his normal activity. While exhibiting the sign, however, he is compulsorily bedridden.

It may arise in one in whom the sphygmomanometer records a high pressure or in one in whom it registers a low pressure. It is not the state of the arteries, but of the heart which accounts for it, and we know that that instrument does not always indicate the power of the latter. The sign denotes enfeebled ventricular action. It may be associated with an apical bruit of mitral incompetency, which disappears on convalescence; or no such bruit may be present. As it so happens, I have noted it more frequently in the absence than in the presence of organic valvular disease. The cardiac rhythm may be quite regular—has been so—in the cases in which I have observed it, and its rate only moderately, or at times considerably, increased. I append a sphygmogram



Radial and jugulo-carotid tracing.

from the case now in hospital in whom the sphygmomanometric reading was low, the pulse slightly accelerated but regular, the respiratory movement rather exaggerated, and the venous incidents ill-marked in the phlebogram.

There may be some anasarca or œdema of the legs, but this may be absent. The urine usually contains albumin, variable in amount, but there need be no evidence of persistent renal disease. Usually there is not. Considerable dyspnœa or some "shortness of breath" is always complained of by those evincing the phenomenon, but there need be no persistent alteration of lung. There is usually some cough of an irritative character, but this may not be urgent, and with the sign persistent and well marked there may be little expectoration. Occasionally the sputum is a little blood-stained.

I have always met with it in middle age, later middle age, or early old age—the patient under my care at present is 67. It may quite possibly occur in younger people. As it so happens, all my patients have been men with some impairment of thoracic elasticity. The disappearance of the sign follows the re-establishment of adequate ventricular action under the employment of long approved and in no way mysterious cardiac care and cardiac stimulants.

What, then, is the precise nature of the local condition which so rapidly appears and disappears? One can frequently arrive at what anything is by considering what it is not. It certainly is not a matter of better pulmonary inflation by the increased compass of respiration on the free side, for the ultimate disappearance of the sign only occurs when adequate ventricular action is restored. The interstitial pulmonary texture is not persistently involved, for there may be no diminution of percussion note, and the crepitation disappears on postural reversal so rapidly. As, moreover, there is usually little bronchial hypersecretion the crepitation cannot be due to *active* stimulation of the bronchial mucous follicles. The condition, therefore, is a passive venous congestion, exuding serum, and occasionally with this an admixture of the coloured elements of the blood. It is, in short, a minor degree of acute œdema.

In the next place, where precisely is the congestion? The signs are those of a crepitation varying in size from the small hair-crepitus to crepitation of "medium" but not "large" size. Associated with the larger crepitation there may be a moderate degree of transient inspiratory sibilus. The condition, therefore, is in the alveoli and smaller bronchi. We know that the venous system arising in the walls of the alveoli is that of the pulmonary veins, and that arising in the bronchi that of the bronchial veins. Anatomists also inform us that part of the blood carried by the bronchial arteries is returned by the pulmonary veins, and that the latter are valveless. The overflow, then, is in the distal portion of the pulmonary and bronchial venous system.

Again, why and how does the rapid reversal of the sign occur? The instantaneous nature of the change precludes the possibility of any increase of auriculo-ventricular aspirative power in the interval. The change, therefore, is the direct result of postural alteration, the elevated organ discharging its overflow just as the elevation of a varicose leg reduces varicosity. The rapidity with which the sign is produced on the dependent side is probably favoured by the valveless nature of the pulmonary venous system.

Finally, what is its precise clinical significance? It apparently means that the conditions producing it are not of long standing, that local changes in pulmonary texture are not inveterate, but that the degree of cardiac failure is considerable.

Since sending the manuscript of this note to THE LANCET, the patient from whom the above tracings were taken has died. The necropsy revealed a much dilated and fattily degenerated heart, considerable bullous emphysema of the upper portions and anterior edges of the lungs, and great dilatation both of the pulmonary artery above the valves and of the right auriculo-ventricular orifice. The percussion note over the left lung generally became markedly dull as the case deteriorated and especially over the left anterior apex. At no time was any ventriculo-auricular bruit detected, but for some time before death a diastolic murmur,

increasing in audibility, was heard along the left edge of the sternum, having a roughness which suggested extra-cardial friction.

Upper Berkeley-street, W.

## INFANT MORTALITY.[1]

BY W. E. HEILBORN, M.B., B.C. CANTAB.,
ASSISTANT PHYSICIAN TO THE BRADFORD CHILDREN'S HOSPITAL; ANÆSTHETIST TO THE BRADFORD ROYAL INFIRMARY.

INFANTILE mortality has been the subject of much investigation recently, and many factors have been blamed for the high death-rate which prevails in many of our cities. It has roused the attention not only of the medical profession but also of laymen, and much work has been done, and much time and money have been spent in trying to deal with it. It will be my endeavour to put the facts as shortly as possible, and to try to come to some conclusion as to the methods we ought to employ to wipe out this blot on our civilisation.

For the purposes of this paper I am limiting the term "infantile mortality" and intend it to refer only to the deaths of infants (up to the age of one year) *born healthy*, and that death is not due to any special cause or disease—e.g., the infectious fevers, pneumonia, meningitis, &c. In short, it refers to infants who could and should have grown up healthy and have never been given a chance to live. The primary cause of death in these cases is neglect or ignorance, or both, on the part of the parents. The former is either wilful or due to circumstances; the latter is universal.

Wilful neglect and ignorance can be, and ought to be, dealt with, but neglect due to circumstances is the most important and most difficult problem. Various societies, such as the Guild of Help, &c., are trying to deal with this latter question, but it is doubtful whether their efforts are in the right direction. The tendency of the day is *not* to teach the people that they have certain responsibilities towards their children, but to take that responsibility away from them. A great factor, too, is the increase of woman labour. If a married woman has to work she cannot look after her children properly and is certainly no fit person to feed and attend to an infant. This leads to the question of putting infants out to nurse—in my opinion an almost criminal procedure. My experience at the Children's Hospital teaches me that a large proportion of these wasting babies are those who have been "put out to nurse."

The other primary cause of death—i.e., ignorance—can only be described as amazing. This refers chiefly to feeding, and no one who had not himself heard the statements made by mothers would believe that they could display such ignorance as to the requirements of an infant. The prevailing idea seems to be that anything *but* breast milk is good enough to feed an infant on, and for this we have to thank the advertisements of patent foods. Even our own profession, I regret to say, has been led away. So many mothers bring their children to me with the story that their medical man advised them to try some patent food because their own milk was not agreeing with the baby that I cannot believe they are all lying. Just as we are allowing the art of prescribing to pass into the hands of the manufacturing chemists, so we have been allowing the management of infant feeding to pass into the hands of the patent food vendors, but I have great hopes that in the latter case, at any rate, their reign is at an end. During the last year I have noticed a considerable increase in the number of cases fed on milk and barley-water, and for this I am sure we have to thank the lady inspectors.

Many years ago there was an outcry because it became fashionable for mothers not to nurse their babies but to feed them artificially, and to this was ascribed the great increase of infantile mortality; but at that time the fashion was chiefly amongst the well-to-do, amongst whom the infant mortality was comparatively very low, and it is now a well-established fact that infants can be reared artificially with a very low mortality if only proper care and attention be given to them. The truth is, that amongst the poor many women nowadays have not sufficient milk to nurse their babies, and when we come to consider the conditions under which they live, the scanty nourishment they themselves get, and the amount of work they do, this is not surprising.

I will now briefly review the various methods which have been employed to remedy this state of affairs. To begin with, we tried milk modified in every conceivable way: diluted, with various kinds of fluids and in varying quantities, undiluted, boiled, sterilised, Pasteurised, "humanised," peptonised, goat's milk, buttermilk, whey, &c.; and we have even gone so far as to put various drugs into the milk, such as sodium citrate. It is curious and interesting to note how different observers in different countries have obtained equally good results with any and every variety of milk. This is very important, as pointing to the fact that it cannot be the quality of the food *alone* which causes the great infant mortality, and that a great deal depends on the proper care and attention bestowed on the child and on the feeding of it, since it is, with reason, to be assumed that each observer, whilst trying his own particular kind of food, has taken care that the child should have every possible attention in every direction. Then we were flooded with the patent foods which I need not mention by name; and then came the modification of milk on scientific principles from America, which consists in prescribing the milk, or, in other words, in ordering the different ingredients to be made up for each infant exactly as one orders a medicine. And, lastly, various societies, such as the Guild of Help and the "Babies Welcome," have taken the matter up and are trying to teach the people how to look after and to feed their infants. The point I wish to emphasize is that all these methods are bad, inasmuch as they are beginning at the wrong end. Instead of teaching the mothers how they can best prepare themselves to nourish their own children we are teaching them to avoid nourishing them by making it *apparently* so easy for them to feed their infants artificially, and having taught them to do this we are supplying them with dirty milk which has to be cleansed and prepared at great expense, instead of turning our attention to the dairies, and obtaining a pure, clean milk from its very source.

What we have to do now is to set about undoing all the harm that has been done and to commence at the very beginning again. I am quite aware of the difficulties of the task to be undertaken, and I know that it will take many years before we can show any marked results. It will cost a huge sum both to the State and to the municipality, but in the end we shall be the gainers. I would suggest that the work should be undertaken somewhat on the following lines:—

1. Institute a thorough system of education for those about to become mothers. This should consist in teaching them how to prepare themselves for motherhood and in instructing them in the art of cleanliness and in the general management and feeding of infants. They should be taught that the proper nourishment for an infant is the mother's milk; if that fails, that the only substitute is pure fresh cow's milk, with or without the addition of a certain quantity of water. That infants do not require feeding every hour during the night or every few minutes during the day, or whenever they cry, and that the regular weighing of the infant is the sole guide as to whether it is thriving or not.

2. To pass a law preventing all women about to become mothers from working in a factory or mill, and this should hold good during the whole of their child-bearing period.

3. To institute a system of dairies through which the public can be supplied with pure, fresh milk.

4. That every physician who delivers a child should look upon that child as his patient, and that it should be under his immediate supervision during the whole of its infancy.

5. That the sale of patent infant foods to the public be made illegal. (If physicians would only impress upon the public the harmfulness of these foods this would be unnecessary.)

6. To obtain an efficient army of competent and trained lady inspectors who shall visit every infant each week and immediately report to the physician if the infant does not seem to be thriving.

7. To make it illegal to insure an infant's life.

Meanwhile, we must find means to deal with the wasting babies which are the result of our hopelessly inadequate system. At present we are sadly behind the times in this respect, and those who have been abroad and have seen the

[1] A paper read before the Bradford Medico-Chirurgical Society on March 21st, 1911.

provision made for this class of case must feel a sense of shame that as yet nothing has been done for them in England. I refer, of course, to the nursling hospitals of Paris, Berlin, and Vienna, with their army of wet-nurses. The results obtained at these institutions are little short of marvellous, and I would recommend any who are interested in this subject to read Professor Budin's book, "The Nursling," translated into English by Dr. W. J. Maloney.

Bradford.

# Clinical Notes:

## MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

### NOTE ON A CASE OF ADENOIDS ASSOCIATED WITH ALBUMINURIA AND CASTS IN THE URINE:

#### REMOVAL OF ADENOIDS FOLLOWED BY DISAPPEARANCE OF THE URINARY CHANGES.

BY J. MORGAN O'MEARA, M.D., B.S. LOND.

THE patient, a schoolboy, aged 7 years, had always been a delicate boy, continually "catching cold." He had been attended for two attacks of laryngitis during six weeks, and the question of operation for adenoids was under consideration. Family history: father quite healthy; mother has pronounced nasal obstruction with aural changes.

I was called to see the boy on Feb. 1st last, and was told that he had been very restless during the night and had not been taking his food for the last day or two. The urine had been very thick and rather scanty. On examination he was somewhat pale and seemed a little drowsy. There was marked nasal obstruction. No œdema could be detected, and there were no abnormal physical signs in the chest. There was no hypertrophy of the heart, and the pulse was not of high tension (60 beats in one minute); the temperature was normal. The urine was turbid and smoky and on standing gave a thick deposit. Its specific gravity was 1014, and the reaction was acid. On boiling and adding acetic acid there was a little albumin precipitated (a 5-inch column of urine when boiled and allowed to stand 24 hours, gave a deposit of about ¼ inch). Microscopical examination of the sediment from the urine showed an enormous number of casts—blood, epithelial, granular, and hyaline—and also renal cells and red blood corpuscles.

The patient was kept in bed and ordered a milk diet. On Feb. 2nd he was rather brighter; urinary changes were slightly less marked. On the 4th he was much brighter and said he felt well. Albumin rather less, but very numerous casts (hyaline, granular, and epithelial). On the 8th, the albumin settled to ⅛ inch on boiling as before; casts very numerous but not quite so many as at first. The patient now got up. He was kept to a diet of milk, milk puddings, &c., with fruit and bread and butter. By the 13th the general condition was good, but the urine was almost unchanged. On the 20th his general condition was still good. The urine showed a trace of albumin, and the casts (hyaline, granular, and epithelial) were still very numerous. There was, perhaps, a tendency towards a greater proportion of hyaline and a smaller proportion of epithelial casts.

By this time I did not think it would be possible to keep the boy indoors much longer. I advised that the adenoids should be removed, as I then thought that these might be aggravating or prolonging the renal condition, and I felt that any fresh "colds" would be likely to be harmful to the kidneys. On Feb. 22nd, therefore, a large mass of adenoids was removed under chloroform. On the 23rd the patient had passed a good night and felt very well. The parents thought that he was better than before the operation and that the urine was clearer. I could not be certain as to any definite changes in the urine, but was inclined to think there were rather fewer epithelial casts. On the 24th the general condition was very good. The lower eyelids looked thin and dark, and this rather suggested to me that there had been slight œdema which I was unable to detect. The casts were definitely fewer and there was no albumin. On the 25th there was no albumin; casts were few in number and required careful looking for. On the 27th the urine was of specific gravity 1020 and increased in quantity; no albumin, no casts. On March 2nd the general condition was very good; the urine contained no albumin and no casts. The patient was allowed out of doors. During the next four weeks he remained quite well and has so continued. On March 27th the urine was clear, specific gravity 1020, no albumin, and no casts.

There were two points that especially struck me in this case: 1. The association of a very large number of casts with a quite small quantity of albumin. Apart from microscopical examination, the urine might almost have been passed as normal at a time when there were a great many casts. 2. That very marked improvement set in immediately after removal of the adenoids, so that there was more improvement in three days after the operation than in the three weeks preceding it.

Luton.

### NOTE ON A CASE OF FOREIGN BODY IN THE ISCHIO-RECTAL FOSSA RETAINED FOR A YEAR AND A HALF.

BY NELLY EVANS, L.R.C.P. & S. EDIN.,
SURGEON TO THE VICTORIA ZENANA HOSPITAL, H.H. THE NIZAM'S GOVERNMENT, HYDERABAD.

A WOMAN of about 30 years of age, a Hindoo widow, was admitted to the Victoria Zenana Hospital on Feb. 9th, 1911, complaining of a sinus of six months' duration situated in the right ischio-rectal fossa. It was supposed to be a case of fistula in ano, and accordingly chloroform was administered and a director passed into the sinus. The instrument travelled in an upward direction and, with a finger in the rectum, it could be felt to pass behind the bowel and enter a thickening behind the cervix uteri; at the same time there was a thick blood-coloured discharge from the vagina. After washing this away a sound was passed into the cervix and could be felt to come in contact with the director. The opening in the right ischio-rectal fossa was then enlarged and the sinus scraped; almost at once a dark object presented at the wound. This was found after removal to be a twig 3¼ inches long and a line in diameter, with a small quantity of cotton-wool twisted round one extremity.

The following history was afterwards obtained. A year and a half previously the patient, being three months pregnant, had called in a *dhai* (native midwife) to procure abortion. The *dhai* "treated" her and abortion took place, followed by an illness of a couple of months' duration. The sinus had begun a year later as an irritable pimple, and for six months the patient had been troubled by the constant discharge from it, but had not connected this in any way with the abortion.

The native midwife frequently procures abortion by the introduction of twigs or other small bodies into the uterus, but it is not usual for a foreign body to be retained so long after abortion has occurred. It was evident that the twig had been so introduced that the lower end, which was somewhat pointed, had passed into the cervix and thus had been forced through the cervix by the uterine contractions.

The sinus healed quickly and the patient was discharged five days after admission.

Hyderabad.

EVELINA HOSPITAL FOR SICK CHILDREN.—Viscount Duncannon, at the annual court of governors of this hospital, in submitting the annual report pointed out with gratification that there had been an appreciable decrease in the cost of patients, which testified to the economy and vigilant supervision exercised by the committee of management. In the course of his address he emphasised the pressing needs of the hospital, urging that it is the only large children's hospital for the whole of South London, is situated in its most destitute district, and is carrying on a beneficent and increasing work in relieving suffering amongst children of the poorest class. There had been a heavy loss, he added, in annual subscriptions during the last few years, and he earnestly appealed for new supporters.

# Medical Societies.

## ROYAL SOCIETY OF MEDICINE.

### MEDICAL SECTION.

*After-history of Cases of Albuminuria occurring in Adolescence.*

THE adjourned meeting of this section was held on May 2nd, with the President, Dr. J. MITCHELL BRUCE, in the chair.

Dr. SAMUEL WEST said that the remarks made at the last meeting showed the necessity of exactly defining the group of cases to be dealt with. Albuminuria was a symptom and not a disease. The causes of albuminuria might be classified, as he suggested some years ago, into pre-renal, renal, and post-renal. In the post-renal group the albumin was added to the urine after it had left the kidney and might be termed accidental, as being due to accidental contamination. It was in consequence of the greater ease of excluding such accidental contamination that males were usually selected for statistical purposes rather than females, but he believed that if in females the urine was as systematically examined functional albuminuria would be quite as common, if not even more frequent. He might in passing say that masturbation and sexual excitement might practically be disregarded as causes. In the pre-renal group in some cases the cause was obvious, as in the congestion of morbus cordis or of pressure upon the renal veins. So in the renal group the causes of the albuminuria might be obvious or not. Functional albuminuria might be described as albuminuria of which the cause was not obvious. It was, however, never physiological, but always pathological, though not necessarily renal. The diagnosis was not difficult, but necessitated care and prolonged observation, so as to exclude as many causes as possible which, though not obvious, might still exist. Albuminuria of adolescence limited still further the class of case to be dealt with. The general curve of frequency of albuminuria was at its lowest at the age of 25, being considerably higher in the few years immediately preceding and gradually rising afterwards as age advanced. That being so, it followed that much of the albuminuria of adolescence must disappear before the age of 25. The statistics of insurance offices dealt chiefly with the period after 25, but they showed distinctly that among the cases accepted with albuminuria (but, of course, without evidence of renal disease, for with that they would not have been accepted), the mortality rate was higher than among those without albuminuria. The significance, therefore, of albuminuria without obvious cause was greater after 25, and increased in gravity with every year after that age, depending largely no doubt upon the increasing frequency of granular kidney. The most valuable statistics would be obtained from banks and business houses, who required medical examination of their young clerks before appointment, or from the insurance offices who insured them. Dr. West said he saw a considerable number of young clerks between the ages of 16–20 in that way, but his figures did not show any great frequency among them—a little less than 2 per cent. The frequency of functional albuminuria was put very high by some observers. That was due to two facts—first, the inclusion of cases in which albumin followed muscular exertion, and, secondly, to the methods of detection employed. In a very large number the trace was infinitesimal and would be overlooked on ordinary examination. Dr. Collier had shown that in athletes after violent muscular effort albumin was constantly present in the urine often in considerable amounts, but there the cause was obvious, and those cases should be excluded. If that were done the frequency statistics given in books would be very greatly reduced, certainly to below 10 per cent., and probably less. The class of case that usually presented itself in practice was that in which a youth at school on applying for an appointment in an office had been found to have albuminuria which there was no reason to suspect. The questions were at once raised: What could it be due to? Must he be kept from school and made an invalid of? Or must he be condemned as unfit for appointment? The general answers to those questions he might give at once. If it were a clear case of functional albuminuria none of those extremes need be resorted to. Most of the cases lost their albuminuria as they grew up, and if in some few cases they did not no evil results seemed to follow. But everything depended upon whether the diagnosis of functional albuminuria were correct, and that was just the difficulty. The diagnosis could only be made after prolonged observation and careful study of each case individually. In functional albuminuria it might be stated as a general rule that the albumin was not always present, varied in amount, often being very small, varied, too, in relation to food, posture, &c. Unfortunately, all those peculiarities were observed in convalescence from acute nephritis before the kidneys had quite recovered, so that those points were in themselves no proof that the kidneys were sound. And, again, where the kidneys were known to be diseased, as in granular kidney, the albumin might vary much at different times or even be altogether absent for long periods together. Thickened arteries, where not obviously due to athleticism, would raise serious question in his mind, for granular kidney began much earlier in life than was often assumed and was well marked—i.e., advanced cases were not by any means very rare in the young. The diagnosis then resolved itself into the question: Was there or was there not any evidence of renal disease, or was there any other obvious cause with which the albuminuria might be connected? Where it stood in relation only to muscular exertion the albuminuria was almost physiological and constant and its significance *nil*. Upon what evidence might they rely to infer renal disease? Where there was a clear history of acute nephritis in the past it was probable that the kidneys had never quite recovered. It must be borne in mind also that recovery might be complete in nearly the whole of both kidneys, and yet, as necropsies showed, there might be smaller or larger patches in which degenerative lesions were present, sufficient to account for the albuminuria, yet compatible with perfect health. Thickened arteries were not conclusive, for just as in athletes the heart hypertrophied so did the arteries, and physiological and functional hypertrophy of the arteries must be borne in mind when considering the possibility of granular kidney. Yet, as a rule, those cases were easily excluded. With regard to renal derivatives, casts and renal cells, they did not respect casts as much as they were wont to do. Hyaline casts were common enough in otherwise healthy persons, and so even might be an occasional granular cast. Blood cells raised more important questions, for though one speaker stated that hæmaturia might occur in functional albuminuria, such a statement should be received with caution. It need not be due to renal disease, but oxalates, uric acid, sand, and crystals were not infrequent causes both of albumin and of blood in the urine. They might conclude that though functional albuminuria, or the albuminuria of adolescence, was not a grave condition, and required neither rigid treatment nor invalidism, still the diagnosis was difficult and required great care and observation together with some skill and experience.

Dr. NESTOR TIRARD said that it seemed to him that they had been talking of many different types of albuminuria under one heading. He agreed with Dr. West in attaching primary importance to the diagnosis of the case.

Dr. F. PARKES WEBER discussed orthostatic albuminuria and declared that in insurance practice he had never heard of any bad result following the acceptance of these lives for insurance, nor had he heard from other medical men of any bad result whatsoever in typical orthostatic albuminuria. Considering the enormous number of cases he thought that was a wonderful thing. Even including the cases from the vast literature on the subject he failed to notice one single really definite case in which any definite disease could be strictly considered as connected with orthostatic albuminuria.

Dr. A. M. GOSSAGE said he would like to emphasise the point that in a considerable number of these cases the albuminuria disappeared apparently without any reason almost directly after the onset, appearing to be almost only a matter of a single occurrence.

The PRESIDENT said that out of 13 cases of typical albuminuria of adolescence 10 were alive and well after an interval of from 11 to 31 years. Not one of these was ill or out of work, and, moreover, they did not have any albuminuria. His conclusion was that with respect to the ultimate results of albuminuria of adolescence it was an innocent disturbance of health.

After Dr. J. F. GOODHART had replied the meeting concluded.

## SECTION FOR THE STUDY OF DISEASE IN CHILDREN.

*Exhibition of Cases.—Syphilis and Mental Deficiency.*

A MEETING of this section was held on April 28th, Dr. E. CAUTLEY, the President, being in the chair.

The following cases were shown:—

Mr. SHEFFIELD NEAVE: Von Jaksch Anæmia in a girl, aged 1 year and 10 months, who presented an enlarged spleen and liver, and slightly enlarged glands in the inguinal and maxillary regions. The erythrocytes, among which were poikilocytes, normoblasts, and megaloblasts, numbered 2½ millions per c.mm., and the leucocytes 19,300, of which 66·6 per cent. were lymphocytes. The hæmoglobin value was 40 per cent. The child showed signs of rickets, and the Wassermann reaction was present. Improvement had occurred under arsenic and iron.

Dr. J. L. BUNCH: Congenital Syphilis treated by "606." The patient was a boy, aged 7½ months, who, when three weeks old, presented typical signs of inherited syphilis. In January the spirochæta pallida was found, and an intramuscular injection of 0·04 grm. of salvarsan was administered. In 17 days the signs disappeared, but the Wassermann reaction was still positive.

Dr. F. PARKES WEBER: 1. Congenital Heart Disease without Murmur and with a family history of Congenital Cyanosis in a girl, aged 2½ years, who had been cyanosed from birth. The heart was slightly enlarged, but there was no murmur audible. The lesion present was probably an aperture in either the interventricular or the interauricular septum, or in both. Two out of the other four children in the family had been cyanotic from birth and had died at an early age. 2. Congenital Heart Disease with Congenital Malformation of the External Ear in a boy, aged 4 years. Over the cardiac area there was a systolic murmur heard best just to the left of the sternum, indicating possibly a patent foramen ovale. In conjunction with the heart lesion was a congenital malformation of the right external ear.

Mr. D. DREW: Chronic Pyæmia of Five Years' Duration following Suppurative Epiphysitis of the upper end of the Humerus in a boy. Five years ago, following an abrasion of the right knee, an abscess formed on the left shoulder and was opened. This was rapidly followed by suppuration of the right elbow and knee-joints, and abscesses in connexion with the bones of both forearms. Altogether 38 abscesses had been opened. Three years ago a course of autogenous vaccine had no appreciable effect. During the past year a similar course had been carried out, but two more abscesses had lately developed, from which, however, no micro-organisms could be grown, this suggesting that the infection was becoming less virulent. The organism previously cultivated was the staphylococcus pyogenes citreus.

Mr. A. H. TUBBY: 1. Asymmetry of the Pelvis (Naegele); Partial Suppression of the Left Lateral Wing of the Sacrum; Scoliosis in a girl, aged 12 years. 2. Double Congenital Club-hand of the radio-palmar variety with absence of the Radius on both sides in an infant. The case was unusual inasmuch as the development of the metacarpal bones and phalanges appeared to be perfect.

Mr. O. L. ADDISON: 1. Malformation of the Femur in a child, aged 2½ years. The right leg was the smaller and showed about 2 in. shortening. The femur was much curved and there was a marked degree of coxa vara. No history of injury had been elicited. 2. Tumour on the Back, probably Dermoid, in an infant. The tumour was in the middle line over the lower cervical vertebræ, and contained a small nodule like cartilage or bone.

Dr. E. BELLINGHAM SMITH and Dr. A. W. G. WOODFORDE made a preliminary communication on Syphilis and Mental Deficiency, in which the authors came to the conclusions that (1) mental deficiency might be the only evidence of syphilitic taint in a family, and consequently syphilis was possibly a more frequent cause of mental deficiency than was usually suspected; (2) in the Wassermann reaction they possessed a means of determining more accurately than by any other previous method the part that syphilis actually did play in the production of mental deficiency; (3) it was the offspring of people who had been the subjects of mild unrecognised or untreated syphilis who were liable to show evidence of nervous instability or deficiency; (4) while it was highly improbable that antisyphilitic treatment would cure mental deficiency when once it was sufficiently pronounced to call for attention, yet it was important to recognise the underlying cause and to initiate such treatment in the parents as might prevent the birth of other infected children. 5. There existed no obvious explanation as to why the mothers in these cases afforded a negative reaction. Perhaps previous infection of the mother was not always necessary for the transmission of the virus to the child, or more probably the reaction itself was not infallible, and its presence or absence under certain conditions was governed by factors as yet unknown.

The cases and papers were discussed by the PRESIDENT, Dr. R. HUTCHISON, Dr. BELLINGHAM SMITH, Dr. WEBER, Dr. F. LANGMEAD, Mr. J. P. L. MUMMERY, Mr. W. M. BURGESS, Mr. DREW, Dr. T. B. HYSLOP, and Dr. J. D. ROLLESTON.

## BALNEOLOGICAL AND CLIMATOLOGICAL SECTION.

*Some Pharmacological Effects of the Strong Sulphur Water (Harrogate).*

A MEETING of this section was held on April 5th, Dr. T. F. GARDNER, the President, being in the chair.

Dr. DAVID BROWN (Harrogate) read the second of a series of papers on "Some Pharmacological Effects of the Strong Sulphur Water (Harrogate)." Dr. Brown offered further evidence to show that during treatment by these waters the following changes occurred: (1) a positive diuresis; (2) an increase in the body (or endogenous) uric acid; (3) an additional excretion of food (or exogenous) uric acid, amounting in all to 80 per cent. of the amount ingested; (4) an increase of 6 per cent. in the total nitrogenous output; (5) an increase of 18 per cent. in total phosphates on a fixed non-purin diet; (6) an increase of nearly 100 per cent. in the excretion of indoxyl-sulphuric acid (indican); (7) no noteworthy alteration in the arterial blood pressure; and (8) no marked alteration in the amount of potassium sulphocyanate of the saliva. Results shown in 2, 3, 4, and 5 were thought to show a distinct increase in general metabolic processes of the body, and that in 3 to point especially to stimulation of the ferment processes of the liver.

Dr. A. MANTLE (Harrogate) remarked that the profession of Harrogate must feel indebted to Dr. Brown for the important work he had brought before the meeting. Personally, he had found in some cases an increase in the arterial pressure when the strong sulphur water was first administered, which was usually soon followed by a steady fall. Diastolic pressure he considered too indefinite to be of clinical use.

Dr. PHINEAS S. ABRAHAM expressed his great interest in the paper. He asked on how many patients had observations been made and how much sulphur water had been given per diem. He hoped that Dr. Brown would continue his observations, and that other medical men in the various watering places would follow his example. Most of their knowledge of the therapeutical effects of the spa waters was purely empirical, and exact scientific work of this description was greatly wanted. He had learnt one thing at least that afternoon—viz., that sulphur water had an oxidising instead of reducing effect on the tissues, as was generally believed and thought to be the case.

Mr. W. ARMSTRONG (Buxton) and the PRESIDENT also took part in the discussion, and Dr. BROWN replied.

## ODONTOLOGICAL SECTION.

*The Relation between the Teeth and Certain Diseases of the Skin and Mucous Membrane.*

A MEETING of this section was held on April 24th, Mr. W. B. BACON being in the chair.

Dr. W. KNOWSLEY SIBLEY read a paper on the Relation between the Teeth and Certain Diseases of the Skin and Mucous Membrane, in which he mentioned that he had frequently observed a connexion between eruptions on the face and head and an unhealthy condition of the teeth and gums. He proposed two explanations of this phenomena: the one, an irritation of one branch of the fifth nerve inside the mouth, producing, by reflex action, a lesion of the skin area supplied by another, or an associated branch of the same nerve; the other, the more complex condition of septic absorption from unhealthy gums. He believed the following skin diseases were often locally produced by one or both of these causes: acne, acne rosacea, alopecia areata, eczema, erythema, herpes, œdema, and seborrhœa. He mentioned

the well-known dermatological fact of a dermatitis produced on one part of the skin by injury, setting up a similar skin condition on another part, and sometimes on a corresponding region of the body. A description of the complicated nerve-supply to the head and neck regions was then given, with special reference to the skin distribution of the branches of the fifth cranial nerve. The author suggested that alopecia areata was often the direct result of dental troubles, especially when bald patches followed an attack of dental neuralgia, and he referred to the work of Jacquet of Paris on this subject. The eruptions of acne were often associated with dental troubles; so also facial eczema, he considered, sometimes originated from the same causes. Erythemas and acne rosacea were not infrequently associated with dental caries, if not entirely due to it. In all these conditions he held that the dermatologist who treated the skin with lotions and ointments, and left the state of the mouth unattended to, was proceeding on most unscientific lines, and was unworthy of the confidence of his patients. He quoted a few cases to illustrate his remarks, and then mentioned some of the diseases of the oral mucous membrane, such as epithelioma, herpes, leucoplakia buccalis, lichen planus, and ulcers, the sites of all of which were frequently determined by the condition of the dental apparatus. Brief reference was then made to more general skin eruptions, the result of septic absorption from the gums, such as septic erythematous rashes, hæmorrhagic purpura, and general furunculosis, and a description was given of some of the skin lesions produced and kept up by gastro-intestinal disturbances, of which dental caries with pyorrhœa alveolaris was one of the most frequent causes. In all these cases the most important point in treatment was first to cure the condition of the mouth. Many cases of eczema, of urticaria, and probably of psoriasis, originated from the same cause, while the list might include most of the skin phenomena found in chronic rheumatism or gout. Dr. Sibley then described some vaccine work he had commenced at the bacteriological laboratory of the St. John's Hospital for Diseases of the Skin, and outlined his treatment of various general skin diseases, in patients with pyorrhœa, by vaccine from the pus obtained from the gums. He showed patients as examples: one, a woman who had suffered for many months from a severe attack of erythema bullosum, and another a man with an equally persistent attack of chronic nettle-rash, both diseases, in his opinion, of gastro-intestinal origin set up by neglected pyorrhœa. It was impossible to lay down a definite rule as to the dose or frequency of the vaccine injections. Every case required to be treated according to its individual peculiarities of reaction. Dr. Sibley concluded with some observations on the micro-organisms found in the pus of pyorrhœa, most frequently streptococci, staphylococci, and spirochætæ. In the majority of cases a pure streptococcus growth had been obtained. He showed under the microscope spirochætæ found in pyorrhœa and in syphilis for comparison, and held that if they were of no significance in the former, neither were they the specific organisms of the latter disease.

## LIVERPOOL MEDICAL INSTITUTION.

*Exhibition of Cases.—Sclero-corneal Trephining for Glaucoma.—Eugenics.*

A MEETING of this society was held on April 20th, Dr. T. R. BRADSHAW, the President, being in the chair.

Mr. ARTHUR J. EVANS demonstrated an apparatus used for the intravenous administration of salvarsan and also for continuous introduction of saline solution into the rectum or tissues. It consisted of a glass flask constructed on the principle of the "Dewar's double flask," the inner flask being separated from the outer by a vacuum. Solutions contained in the apparatus retained their temperature for a considerable time and could be run into a vein or the rectum by a tube connected with the lower end.

Dr. H. DRINKWATER demonstrated a case of Word Deafness in a child aged 14½. Four years ago the child was able to hear normally. She then became deaf as the result of a catarrh and at the end of six months could not hear spoken words. When seen by Dr. Drinkwater air conduction was absent, but some bone conduction was present. Adenoids were removed and the Politzer bag was used. Fourteen days later she could hear a watch at 12 inches. She was found to be word-deaf and could only repeat a few words such as "one," "two," "three." She could speak, write, and read with comprehension. Dr. Drinkwater considered that the functions of the auditory word-centre were in abeyance and that re-education was required.—The PRESIDENT considered that during the period of deafness the child had come to rely entirely upon the visual word-centre.

Dr. DRINKWATER then demonstrated a Method of Dispensing Sodium Salicylate with the Tincture of the Perchloride of Iron. Dissolve 1 dr. of the soda salt in 2 oz. of water. Add 30 or 40 min. of the tincture of iron and 1½ oz. of a solution of potassium bicarbonate of the strength of 1 dr. to 1 oz.; chloroform water to 8 oz. The result is a clear, palatable, claret-coloured mixture. Dr. Drinkwater had found this a useful medicine in rheumatic sore-throats combined with anæmia.

Dr. C. RUNDLE and Dr. E. H. R. HARRIES called attention to the important place held by certain bacilli of the Gaertner group in the causation of subacute and chronic forms of epidemic diarrhœa in children, and stated some clinical observations in support of this view.—Dr. E. W. HOPE drew attention to the number of occasions on which this extremely important subject had occupied the attention of the institution. His own observations during the years 1884–5–6 showed that the mortality from infantile diarrhœa amongst artificially fed infants under three months of age was at that time 15 times as great as amongst those who were breast-fed. During periods of prolonged absence of rain and of high temperature the results of improper feeding were very pronounced. The difficulty of providing suitable food led the corporation to establish its milk depôts, which had been very successful.—Dr. N. PERCY MARSH said that the only bacillus constantly found was of the type of the dysentery bacillus described by Shiga and Flexner. This bacillus was constantly found in that form of diarrhœa in which the stools consisted of blood and mucus, and in which pathological changes were found in the lower bowel and colon. Dr. Marsh considered that until a more exact knowledge of the effect of the toxins of these and other bacteria upon the infantile organism had been ascertained we could not hope satisfactorily to solve the problem of the pathogenesis of infantile diarrhœa. Sterilisation of milk had not been followed by the satisfactory results anticipated; given favourable climatic conditions the disease would still continue to be prevalent.

Mr. A. NIMMO WALKER read a short paper on the results of eight cases of Sclero-corneal Trephining for Glaucoma, and described a modified operation. In all cases the tension had been permanently lowered and pain, when present, immediately and permanently relieved. Vision in all before operation had fallen to finger-counting or less; in four there had been no improvement; in the remainder it had risen to recognition of large objects—4/60, 5/12, and 5/9 respectively—though, of course, with retracted fields. He thought that these results were encouraging and that the operation as modified, whilst entailing the least possible risk to the eye, held out good prospects of success. Six of the cases were shown at the conclusion of the paper.

Dr. C. J. MACALISTER read a paper on the Eugenics Question. After referring to its social and economic aspects, he discussed the various types of conditions which might come under the definition. The first class consisted of cases in which the inheritance of gross anatomical defects is present. The deaf-mute was taken as a type and illustrating the way in which these conditions tend to recur in families after the lapse of several generations which had apparently been healthy. The second class included patients in whom inherited errors of metabolism caused disease, and he pointed out that the consequent ill-health might in many cases be avoided by meeting these idiosyncrasies by suitable diet and treatment. The third class referred to was one in which a tendency to some disease such as tuberculosis is inherited, and he dwelt upon the importance of environment as a protective measure. He considered that the preservation of the strong, and the education of all concerning the influences of certain acquirable diseases which are factors in ruining health and shortening life, would lead to more important results than any possible system of eugenics.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on April 7th, Dr. Phineas S. Abraham, the President, being in the chair.—The President showed a case of Mycosis Fungoides in a man.

A positive Wassermann reaction had been obtained in this case. Some improvement had taken place with iodide of potassium and X rays. The President stated his intention to try the effect of salvarsan in this case.—Dr. Seymour Taylor showed a case of Unresolved Pneumonia in a man aged 45, who for three weeks after the crisis presented the physical signs of consolidation. Dr. Taylor said this case emphasised the teaching that during early convalescence from pneumonia the evidence given by the temperature and pulse charts was of greater value than that afforded by the stethoscope.—Dr. Taylor also showed a case of Tumour of the Loin in a man who had suffered with empyema of the same side, and whose pleural cavity had been drained. The tumour occupied the site of Petit's triangle; it was of the size of a hen's egg and reducible, giving the sensation of a hernial protrusion of bowel.—Mr. W. McAdam Eccles thought it a lumbar abscess finding its way from within the thorax through Petit's triangle.—Dr. Frederick S. Palmer showed a case of Bulbar Paralysis in a woman. Lumbar puncture was performed, but owing to the presence of blood in the cerebro-spinal fluid the examination for lymphocytosis was not satisfactory. A positive Wassermann reaction was obtained; under mercurial inunction and 20 gr. doses of iodide of potassium three times daily she has distinctly improved. — Dr. Palmer also showed a case of Multiple Sclerosis in a man aged 23.—In reply to Mr. Donald J. Armour, Dr. Palmer said he had not as yet tried "606" in cases of disseminated sclerosis. —Mr. E. Laming Evans showed a case of Osteitis Deformans in a woman aged 43, who eight years ago, after her last confinement, noticed that her right shin-bone was painful and thickened. She now presents great thickening of the right tibia which is markedly curved with the convexity forwards and outwards. A skiagram showed the normal condition of the fibula and the thickening of the tibia. The cranium, spine, and other long bones are normal; the disease has remained localised for eight years. — Mr. Evans also showed a case of Chronic Enlargement of the Bursa between the semimembranosus and the internal head of the gastrocnemius.—Dr. E. A. Saunders showed a case of Tabes Dorsalis of recent onset treated by "606" in a woman. A positive Wassermann reaction was obtained. Following on the injection of "606" marked improvement had occurred, and at a subsequent Wassermann the reaction was almost completely negative.—Mr. J. E. R. McDonagh, Mr. Hugh W. Bayly, and Mr. W. Rickard Lloyd discussed the case. —Mr. Aslett Baldwin showed a case of a woman with Great Enlargement of the Left Lower Limb, in which marked improvement had followed the operation of lymphangioplasty. He also exhibited a case of Charcot's Disease treated by "606," and one of Dislocation of the Hip.—Mr. N. Bishop Harman showed a case of Dislocated Lens and Absolute Glaucoma in a man aged 54. Examination of this case made it probable that he was the subject of a congenital partial dislocation of both lenses, and that the right lens was further dislocated as the result of a fall.—Mr. Harman also showed a case of Congenital Aniridia and Lenticonus in an infant aged 7 months. He remarked that absence of the iris was not a common congenital defect and lenticonus was still more rare. As regards the prognosis it would be unwise to promise more sight than the capability of getting about.—Mr. Donald Armour showed a case of Operation for Spinal Cord Tumour. The patient was a man who had suffered from compression paraplegia which extended as high as the seventh cervical segment. Laminectomy was performed in December last, when a tumour growing from the seventh cervical posterior root within the dura mater was found and removed with the root. The patient made a complete recovery and all signs of the paraplegia disappeared.—Mr. O. L. Addison showed a case of Tubercle of the Epiphysis of the Head of the Femur, and one of Syphilitic Osteomyelitis of the Humerus and Tibia.—Mr. Duncan Fitzwilliams exhibited a case of Sarcoma of the Testis, and one showing the Result of Injury to the Lower Epiphysis of the Humerus.

DEVON AND EXETER MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on April 21st, Mr. J. M Ackland, the President, being in the chair.—Mr. Russell Coombe read a paper on the Surgery of the Commoner Acute Abdominal Lesions. In his introductory remarks special stress was laid on the importance of regarding no case of abdominal pain as trivial when first seen, and on the necessity for seeing such a case a second time within a reasonably short period. Opium in every form should be withheld until a serious lesion had been excluded or until an operation had been decided upon. Dealing with intussusception Mr. Coombe deprecated attempts at reduction by inflation or injection. In elderly subjects where there was good reason to suspect volvulus of the sigmoid he advocated enemata with the patient in the genu-pectoral position. Success was likely to be met with where an "omega" loop hung down into the pelvis and had become twisted. Turning to the perforations, he drew attention to the so-called watersheds marked out by the bony framework and their subdivision by the transverse mesocolon. He emphasised the vital importance of keeping the patient's thorax and upper abdomen raised in any case where it was feared that the upper or subdiaphragmatic region might be encroached upon by an escaped fluid. He then dealt with the site of the incisions appropriate to the lesions in question, classified according to the main divisions of the abdominal cavity—viz., supra-mesocolic, infra-mesocolic, and pelvic. He also drew attention to the fact that 90 per cent. of acute abdominal conditions requiring surgical interference lie within the area of "acute abdominal conflux"—an area defined by two lines, the one drawn vertically upwards from the right anterior superior spine, and the other vertically downwards from the seventh left costal cartilage about an inch from the sternum. In dealing with escaped fluids he advised sponging in preference to flushing, except in gastric ulcer, where the stomach contents had already reached the pelvis. In all cases where extravasation of fluid was suspected he advocated the Fowler position. He demonstrated a cheap and efficient method of proctoclysis with a few feet of rubber tubing, a tap, and a thermos flask. By this means he had given 16 or 17 pints of saline in 24 hours at the required temperature. At the close of his paper he showed an evacuator for effused fluids designed by Mr. C. Hamilton Whiteford of Plymouth, which he found more rapid and efficient than sponging.—Dr. W. Gordon alluded to the transitory character of shock in perforation, and instanced cases where the patient on admission to hospital was able to sit up, when subsequent operation disclosed a perforated gastric ulcer admitting the forefinger.—Dr. R. V. Solly advocated in the acute infections immediate bacteriological examination and cultivation at the operation, in order that no time might be lost in providing a vaccine if indicated in the after-treatment.—Dr. G. P. D. Hawker mentioned cases in which he had noted simultaneous tenderness over the right kidney and appendix region, where subsequently the symptoms pointed to excessive uric acid excretion. These cases were very confusing, but palpation of the opposite kidney would probably reveal tenderness there also. —Dr. C. J. Vlieland strongly advocated the use of strychnia in shock and quoted from his own experience. — Mr. C. E. W. Bell advocated immediate operation in appendicitis; but since cases were often of some days' duration before the surgeon was summoned, and the risk of operation was proportionately increased, he preferred to delay or to operate, according as the symptoms coincided with similar cases in his experience, rather than to lay down any fixed law for operation.—Mr. G. L. Thornton asked for the experience of the meeting with regard to the use of ergot in the treatment of shock, with which he had himself been much impressed. He deprecated the giving of enemata in the earliest stages of appendicitis.—Mr. G. W. O. Clark said that he had used enemata as a routine in cases of appendicitis and could remember no untoward results.

MEDICO-CHIRURGICAL SOCIETY OF GLASGOW.—A meeting of this society was held on April 7th, Professor R. Muir, the President, being in the chair.—Dr. A. Freeland Fergus discussed (1) the Various Procedures applicable to Cases of Paralytic and Congenital Ptosis, showing a case; and (2) the Treatment of Lacrymal Suppurative Disease. In his opinion this disease was not due to organic stricture, but to a septic condition of the lacrymal sac. In the early stages the passing of probes, not for removal of stricture, but for the establishment of drainage and irrigation, was a legitimate method of treatment, but such treatment was sometimes continued for months, or even years, without effecting a cure. Where a cure did not follow within a reasonable time the sac should be removed in order to safeguard the cornea, in the event of its being injured, from an obvious source of septic infection.—Professor G. H. Edington showed a case of Ulcerating Gummatous Syphilide treated

by "606" in a congenital syphilitic. The patient, aged 16, had between the ages of 6 and 8 years been operated on several times for tuberculous epiphysitis of the lower end of the left femur, and in October, 1909, had abscesses about the right ankle-joint, which were also looked on as tubercular, opened, and scraped. These did not heal, and on the patient's admission to the Western Infirmary Professor Edington, regarding the case as syphilitic, had a Wassermann reaction done with positive result. On Nov. 2nd 0·45 gm. of "606" was injected into the interscapular region; on Dec. 22nd 0·2 gm. was injected into the median basilic vein; and on Feb. 15th the skin lesion had healed, but the Wassermann reaction being still positive on Jan. 24th, 0·27 gm. of "606" was given intravenously. On March 6th the Wassermann reaction was negative, and the condition of the ankle had since remained quite satisfactory.—Dr. C. H. Browning, who carried out the Wassermann reactions and salvarsan treatment, pointed out that the neutral emulsion of this drug was very irritating to the subcutaneous tissues of certain individuals, the drug not being well absorbed, its therapeutic effect poor, and extensive skin necrosis sometimes resulting. He recommended the intravenous injection, and had, along with Dr. Ivy Mackenzie, treated upwards of 50 cases by this method without untoward side effects. The Wassermann reaction should be taken as a guide to treatment. Treatment sufficient only to cause the disappearance of a lesion did not convert a positively reacting serum into a negative one, especially in tertiary and congenital cases. A positively reacting serum should be regarded as the most delicate sign of infection and as an indication that there was danger of a recrudescence. Treatment, therefore, should aim, not merely at causing disappearance of lesions, but also at the conversion of a positively reacting serum into one which remained permanently negative.—Dr. J. M. Cowan made a short communication on the Association of Mitral Stenosis and Renal Cirrhosis.

NORTH OF ENGLAND OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.—A meeting of this society was held at Manchester on April 21st, Professor J. B. Hellier, the President, being in the chair.—The President showed a specimen of Rupture of the Uterus during Labour in a patient who reached hospital too late for any operative interference.—Dr. H. Briggs showed: 1. A Left-sided Hydrosalpinx, with complete torsion of the pedicle in the direction of a right-handed screw, from a robust but sterile woman, four years married, aged 32. 2. A large Circumscribed Fibroma of the Left Ovary, an enlarged Fibromatous Uterus, and a small Solitary Fibroid of the Uterus, from a woman aged 50, the mother of two children. The rapid rate of growth of the ovarian fibroma, its site within a complete envelope of ovary, its large size and its unusual adhesions, the absence of ascites, and the presence of one finger-nail patch of superficial calcification, were, collectively, features which complicated the diagnosis, when at the same time the uterus itself was enlarged, raised, and fibrosed, and the seat of a small fibroid.—Mr. S. English exhibited: 1. A very large Fibroid Uterus removed from a young single woman aged 28, who complained that for two years her abdomen had been increasing in size; she also complained of increasing constipation and of trouble with micturition. The uterus, together with the left ovary, was removed, and she made an uneventful recovery. The ovary contained a bilocular dermoid cyst, one division containing hair and sebaceous material, and the other teeth and cartilage. 2. A Pedunculated Fibroid of the Uterus, showing red degeneration, removed at the end of the fifth month of pregnancy. 3. A Uterus containing in the anterior wall a large fibroid of a very dark colour. This patient complained of menorrhagia and dysmenorrhœa for the past four years.—Dr. W. Gordon Fitz-Gerald showed a specimen consisting of a Cervix and Uterus which he had removed by the abdominal route from a patient aged 60. The cervix, which was 3¾ in. in length and 2¾ in. in diameter, consisted mainly of mucoid material, while the uterus, which was only 1½ in. in length, showed areas where the muscle had been invaded by a similar degeneration. Microscopical sections showed areas suggestive of pure carcinoma and others suggestive of cyst-adenoma. There was no doubt that the tumour was malignant, but its true nature was doubtful.—As the specimen appeared to be one of very great rarity, a special subcommittee was appointed to investigate its nature.—Dr. W. Blair Bell described his Buttress Operation for Cystocele and Rectocele. It consists in excising the redundant vaginal mucosa and freeing the remaining side flaps from the bladder and rectum. The flaps were then sutured with mattress sutures, so that a broad raw under-surface of each flap was apposed. The free edges were joined by an overhand suture. In this way a strong central column or buttress is formed, and this is much stronger than the ordinary linear scar, which almost invariably stretches.—Dr. A. W. W. Lea showed lantern slides of an Early Ovum which he had recently obtained.

UNITED SERVICES MEDICAL SOCIETY.—A meeting of this society was held on April 12th, Lieutenant-Colonel C. H. Melville, R.A.M.C., being in the chair.—Lieutenant A. J. Martin, M.I.C.E., 2nd London Sanitary Company, read a paper on Camp Sanitation, illustrating the methods of overcoming the difficulties met with when one had a stiff clay subsoil to contend with. Soakage pits should be shallow, and for sullage water he preferred them in the form of a trench which was filled in with old tins and the whole covered with the excavated soil. Difficulties in getting rid of urine could be sometimes got over by running the urine into filled-up latrine trenches, and he recommended that the urine trenches leading to the pit or soakage trenches should have permeable sides so as to absorb the greater quantity of urine before it reached the pit. An improvement in the latrine trenches which was introduced by Major Caldwell Smith was to cut away the sides for a few inches down so as to give a firmer purchase for the men's feet when standing straddle across the trench. Numerous experiments were described for the making of incinerators, the most generally useful pattern being one constructed out of sods.—Major P. Caldwell Smith, Captain C. H. Straton, Colonel A. Peterkin, Major W. O. Beveridge, and Lieutenant-Colonel Melville took part in the discussion.—Major E. B. Waggett, R.A.M.C.(T.), read a paper on Questions Concerning the Medical Strategy of London. In the first place he pointed out that an enemy would not be likely to attempt the assault or invasion of London directly, but would try to bring about its capitulation by a moral blow, such as the cutting of the railway lines from the north and west and interfering with the food-supply, which would bring the capital to the verge of starvation in a very few days. As a consequence the fighting would take place in an area at least 20 miles from London, and as it was upon this area that the Territorial forces would have their place, it was necessary for them to make a study of the probable *terrain*. Territorial forces would be much better occupied in such studies than in fighting imaginary battles at Aldershot or Salisbury Plain. Major Waggett then proceeded to discuss the problems arising from a supposed landing of an enemy on the Wash and Sussex Coast threatening the lines to the north and west respectively, with a further force threatening the metropolis directly from a landing on the Essex coast. He described the geology of the district from the point of view of the establishment of camps and hospitals, pointing out the special unsuitability of sites on London clay. He was of opinion that on all grounds, sanitary, strategical, and moral, it would be undesirable to bring the wounded to London; they would have to be distributed in hospitals situated somewhere in the outskirts, and in a good many cases it would be better to distribute them in houses near where they fell under the care of voluntary aid detachments.

NOTTINGHAM MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on April 19th, Mr. W. Morley Willis, the President, being in the chair.—Dr. J. S. Bolton, in a paper on Stiff Joints, Causes and Treatment, said that the chief causes of stiff joints were: injury leading to rheumatism, gonorrhœa, tubercle, and rheumatoid arthritis due to sepsis from some mucous surface. Great stress was laid upon the necessity of thoroughly examining and cleaning the mouth. After finding and removing the original cause of the trouble, the next step was to treat the joint itself by flushing it with pure blood. Sodium salicylate, potassium iodide, and iodide of iron were the principal drugs to be tried. For the joint itself, the following methods should be tried: elevation, Bier's method, radiant heat by means of an electric lamp, massage, the electric vibrator, the faradic current, the high-frequency current, and the continuous current.—Mr. R. G. Hogarth thought that the value of electricity in stiff joints was greatly overrated. The only real success he had obtained was by means of radiant heat up to 400° F.; here the great

difficulty was to avoid burning the patient.—Dr. F. Hall, in a paper on Some of the Lesser Known Uses of Arsenic, said he had found arsenic to have a distinct effect in cases of cancer as an anodyne, in retarding the growth in inoperable cases, and in preventing recurrence after operation. The drug, chiefly the iodide of arsenic, was of great use in most diseases of the alimentary canal, especially gastritis, in phthisis, and in all cases of neuritis. In epilepsy he found, by gradually adding arsenic to the bromide mixture, that he was able to lessen the dose of the bromide and finally to keep the fits under with arsenic alone. Very useful, too, was its effect in helping to clear up a pneumonic lung and in promoting absorption of pleuritic effusion.

# Reviews and Notices of Books.

*A Manual of Gynæcology.* By T. W. EDEN, M.D., C.M. Edin., F.R.C.P. Lond., F.R.C.S. Edin., Obstetric Physician and Lecturer on Midwifery and Gynæcology, Charing Cross Hospital; Surgeon, Chelsea Hospital for Women; Physician, Queen Charlotte's Lying-in Hospital. 272 illustrations. London: J. & A. Churchill. 1911. Pp. 650. Price 18*s.* net.

THE success that attended Dr. Eden's work on midwifery renders the publication of a work by him on gynæcology a matter of much interest. The book now before us is a volume of some 600 pages, illustrated with large and clear drawings, both of macroscopic and microscopic appearances, and well printed on good paper and of a very handy size. The illustrations have been made in great part from materials taken from the author's own clinical work, while the microscopic appearances have been reproduced in drawings made with the aid of microphotographs. The object of the author has been to provide students and practitioners with a manual containing a complete, but not an exhaustive, account of the diseases of women in their pathological and clinical aspects. The general arrangement of the book is clinical and practical, and it forms a very good exposition of the current teaching of the majority of gynæcologists in this country.

In discussing the development of the ovary we notice that Dr. Eden accepts the view that the epithelial cells of the Graafian follicle are derived from the germinal epithelium, but still adheres to the view that the cells of the corpus luteum are derived from the theca interna; that is to say, he is in agreement on this point with the original view of von Baer. We find, indeed, the statement "that the origin of the lutein cells from the connective tissue cells of the tunica vasculosa has been proved"; but is this true? Indeed, it appears to us that the very careful and exhaustive work of Sobotta, van der Stricht, and Marshall has proved conclusively that the lutein cells are derived in reality from the epithelial cells of the follicle, although no doubt it is also possible, as van der Stricht has pointed out, for some of the lutein cells to be derived from interstitial cells lying between the innermost cells of the tunica interna. This observation is of great interest when we remember the modern views as to the origin of the interstitial cells from the germinal epithelium and the fact that the follicular epithelial and interstitial cells, as Miss Lane-Claypon has shown, are in all probability of equal value.

In the section dealing with Hæmatocolpos and Hæmatosalpinx, in the consideration of the treatment of these conditions we are told that prolonged confinement to bed is necessary in order that absorption of the tubal fluid (hæmatosalpinx) may occur, but that the patency of the oviducts may never be restored. It is difficult from the account given to determine whether the author wishes his readers to understand or not that the fluid mechanically accumulates in the tubes. As in nearly all, if not all, cases of hæmatosalpinx accompanying atresia of the vaginal canal the tubes are closed by inflammation, and the fluid is the result of hæmorrhage into the tubes, and is not due to regurgitation of fluid from the uterus, it appears of little use to attempt to preserve the tubes, since they are always inflamed and occluded. Surely in all such cases the only safe treatment is to open the abdomen and to remove the distended and inflamed tubes.

The account of the changes occurring in the mucosa of the uterus in cases where fibromyomata are present is hardly borne out by the researches of Cullen on this subject, as he has failed to find the marked degree of hypertrophy to which Dr. Eden calls attention as a usual accompaniment of fibroid tumours of the uterus. We are glad to see that stress is laid upon the fallacy of the conclusion that has been put forward by some writers that the subjects of fibroid tumours are more liable than other women to the development of cancer of the uterus in middle life. The statistics, it must be remembered, are compiled from a picked series of cases—namely, those women who have been subjected to operation.

In discussing the condition commonly called endometritis Dr. Eden calls attention to the confusion which still exists in the use of this term, and insists upon the fact, now more or less generally recognised, that most cases of endometritis are not in any sense inflammatory in origin. As he states, the fact that lymphocytes are found in relatively large numbers in the normal endometrium no doubt accounts for a good deal of the erroneous teaching on this point, but the recent discovery that plasma cells can be recognised by special staining in all inflammatory effusions should render the distinction between inflammatory and non-inflammatory changes in the endometrium a matter of much less difficulty in the future than it has been in the past. The description given of the development of an erosion is one of the best that we have read, and we are in entire agreement with the author in his conception of an erosion as the result of chronic cervical catarrh, while its usual mode of origin is admirably illustrated in the figures given. It is a pity that the author has not had the courage of his convictions and lent his authority to the discarding, once and for all, of this misleading term and the adoption of the much better name suggested by Barbour of "catarrhal patches." In the treatment of erosions we think it would have been well if a little more detail as to the method of using the actual cautery in these cases had been given. It is important that the cauterisation should be carried out with the fine point of the Paquelin's cautery and that it should not be too extensive, or marked contraction of the external os may result. In the description of the operation of anterior colporrhaphy nothing is said of the importance of dissecting away the bladder wall from the vaginal flap if the best result is to be obtained, nor is this important detail mentioned in the account of Wertheim's operation of intravaginal fixation of the uterus. The method recommended of sewing up the raw surface transversely in an anterior colporraphy instead of vertically appears to us a mistake, since it leads to shortening of the anterior vaginal wall and does not tend, as an anterior colporraphy should when well carried out, to throw the cervix backwards and upwards towards the hollow of the sacrum. When we consider, however, how briefly the various operative procedures are described we have nothing but praise for this portion of the book, as, indeed, we have for the whole.

This work is by far the best manual of gynæcology of its size which has yet been written, and we venture to predict for it a success similar to that which attended the publication of the author's "Manual of Midwifery."

*Disease of the Pancreas, its Cause and Nature.* By EUGENE L. OPIE, Professor of Pathology, Washington University, St. Louis, Mo.; formerly Member of the Rockefeller Institute for Medical Research and Pathologist to the Presbyterian Hospital of New York City. Second edition, rewritten. Illustrated. London and Philadelphia: J. B. Lippincott Company. Pp. 387. Price 15*s.* net.

UNTIL comparatively recently the subject of diseases of the pancreas was regarded as rather of academic than of practical interest, and except in monographs and large systematic works on medicine it was but briefly referred to. As a result of modern research upon the physiology and pathology of this gland, the diagnosis of pancreatic disease and injury has come within the scope of practical medicine and surgery. A special work dealing with this subject is therefore likely to be of value, and no one is more fitted to prepare such a book than Professor Opie, who has contributed to our knowledge in no small measure by his own researches. At the outset we may say that the result is worthy of the reputation of the author, since the subject is dealt with scientifically and practically, and a valuable review is afforded of the present state of opinion on diseases of the pancreas, references being given to all important papers quoted in the text. The preface contains a brief history of the evolution of modern views upon pancreatic function and disease. The first five chapters are devoted to anatomical and physiological considerations. The development of the pancreas, the medical and surgical relations of this organ, and the effects of injury are described. Anomalies of the gland and its ducts are considered fully and their genesis is discussed. In connexion with the histology of the pancreas the nature of the islands of Langerhans is subjected to careful examination and some interesting illustrations of their structure are given. Their function and relation to the secretory acini are also dealt with. The digestive functions of the pancreas and the disturbances of digestion induced by absence of the pancreatic juice from the intestine are submitted to analysis, and the relations of the pancreas to carbohydrate metabolism are critically discussed.

The first pathological condition to be studied is acute hæmorrhagic pancreatitis, which Professor Opie maintains to be strictly speaking a hæmorrhagic necrosis of the pancreas; indeed, he believes that pancreatic hæmorrhage, hæmorrhagic pancreatitis, and gangrenous pancreatitis are all of them manifestations or sequels of widespread necrosis of the parenchyma of the organ. He brings forward pathological and experimental evidence that the most important cause of this condition is the impaction of a gall-stone in the diverticulum of Vater, leading to the entrance of bile into the pancreatic duct, although in some cases traumatism may be a factor. The symptoms are classified into those occurring during the stage of hæmorrhage and those during the stage of gangrene. The profound collapse and rapidly fatal termination in some cases are probably to be attributed to intoxication from some toxic substance derived from the necrosing pancreatic tissue. The condition of fat-necrosis is then dealt with at some length, its occurrence in association with pancreatic disease, its experimental production in animals, and its clinical significance being exhaustively considered. Professor Opie describes some experiments which he has carried out in which a condition of fat-necrosis as widespread as that occurring in disease was obtained. He points out the importance of the recognition of this condition at operation as indicative of grave disease of the pancreas.

Acute pancreatitis with abscess formation is then described, and the various forms of chronic interstitial pancreatitis are differentiated. The influence of gall-stones, arterio-sclerosis, ascending infection from the duodenum, tuberculosis, alcoholism, and hepatic cirrhosis as factors in the causation of chronic pancreatitis are considered. Tuberculosis and syphilis of the pancreas form the subject of a short chapter, but the conditions appear to be chiefly of pathological interest. The pathological and clinical characters of pancreatic calculi and cysts are given in detail with illustrative cases. The nature, symptoms, diagnosis, and treatment of malignant disease are then outlined. An interesting chapter on degenerative changes affecting the islands of Langerhans contains many original observations, more particularly upon hyaline degeneration of these structures, a lesion which proves to be frequently associated with diabetes mellitus. The pathology of pancreatic diabetes is then discussed at considerable length, and the book concludes with an account of hæmochromatosis and bronzed diabetes.

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*Die Krankheiten der Warmer Länder; Ein Handbuch für Aerzte.* (*The Diseases of Warm Countries; a Handbook for Medical Practitioners.*) By Dr. B. SCHEUBE, Geheimer-Medizinalrat. Fourth edition, rewritten and enlarged. With 5 maps, 1 plate, and 142 illustrations in the text. Jena: Gustav Fischer. 1910. Pp. 1072. Price, in paper boards, M.22.50; bound, M.25.

Scheube's well-known handbook made its first appearance in 1896, a second edition being required in 1900, and a third in 1903. Since that time the remarkable advances which have been made in our knowledge of tropical medicine, and which may be said to have been unequalled in any other branch of medicine during the period, rendered it imperative that the work should be brought up to date. It has been found necessary by Scheube to rewrite some of the chapters and to enlarge almost every one of the others. The volume may now be regarded as the most exhaustive presentation of the subject.

The book is divided into six sections, the first of which deals with general infections, including those due to protozoa and bacteria, as well as those of unknown origin. Among the latter Scheube places beri-beri, and while giving reference to the recent work of Fraser and Stanton, as well as of others, in the Federated Malay States, and to Schaumann's views as to the deficiency of organically combined phosphorus in the food, he nevertheless asserts that the disease is not due to diet but is associated with an infection of unknown origin. The second section treats of diseases arising from intoxications, among which are included such maladies as pellagra and lathyrism. As regards the former of these, although Dr. L. Sambon's views are discussed, apparently the evidence upon which they are based is not considered by the author as sufficiently strong to warrant him in removing pellagra from the class of diseases due to intoxications. The third section treats of maladies caused by animal parasites, including such ailments as bilharziasis and filariasis. The fourth section deals with diseases of organs, including tropical hepatitis, dysentery, &c.; while the fifth section is devoted to "external" maladies, such as craw-craw, Madura foot, ainhum, &c. The sixth and last section treats of "cosmopolitan" diseases, comprising, among others, the acute exanthemata, tetanus, pneumonia, tubercle, and syphilis. To each chapter is appended a copious list of references; and as giving some idea of the extent of these we may mention that the references on malaria alone fill more than 48 pages. The five maps show respectively the distribution throughout the world of malaria and black-water fever, leprosy, beri-beri, filariasis, and ankylostomiasis. Dr. Bernhard furnishes an excellent index to the book.

An English translation of Scheube's handbook in its present shape should be forthcoming for the benefit of those practitioners who are not acquainted with the German language; the second edition was translated and edited by Mr. James Cantlie. Although in some instances the author's

views are not entirely in accord with those of our English authorities, nevertheless Scheube's book must prove of the greatest value to all who are concerned in the diagnosis, treatment, and prevention of the diseases of tropical countries.

## LIBRARY TABLE.

*The Microscope, and Some Hints on How to Use It.* By E. LEITZ, 9–15, Oxford-street, London.—This most useful pamphlet explains clearly the optical and mechanical parts of the Leitz microscopes, and elucidates such terms as numerical aperture and resolving power, which are so bewildering to the ordinary worker with a microscope. Those who are not conversant with the subtleties of cardinal points will be delighted to find all difficulties overcome by the expression, "optical tube-length" for the distance between the posterior focus of the objective and the anterior focus of the eye-piece. According to the most recent work ("Theory of Optical Instruments," Whittaker), the distance apart of two objects that can just be resolved by direct illumination is $\frac{\cdot 61\lambda}{a}$ (i.e., $\cdot 22\mu$ with the best instruments), not $\frac{\lambda}{a}$ as indicated on p. 20, where $a$ denotes the numerical aperture of the objective, and $\lambda$ denotes the wave-length of the light used. With this one exception we have nothing but praise for this excellent little book.

*Shans at Home.* By Mrs. LESLIE MILNE, M.R.A.S., &c. With two chapters on Shan History and Literature by Rev. W. W. COCHRANE. With illustrations. London: John Murray. 1910. Pp. 289. Price 15*s.* net.—Mrs. Leslie Milne spent some three years in the Northern Shan States, which lie between Upper Burma and China, from 1906 onwards, her chief object being to study the language of a people called Palaungs, or Palés, who come down to trade with the Shans of the valleys, but are not allied to them, either in race or language. The work does not profess to be a full and scientific description of the country or the native races; but the authoress has given us a series of pictures by pen, camera, and brush of the people from their own point of view, as they appear in their daily life. Beginning with a description of the Shan baby, we are led through the stages of its childhood, youth, and age; informed of the habits and appearance of the people, how and where they live, what they talk about and think about; how they marry, and how they are buried; what are their occupations and amusements; in fact, we are given a very full insight into the life of the country. The Shans are naturally sociable, hospitable, and kind-hearted, not specially industrious; in many ways they resemble their neighbours, the Burmese, as in their good temper and love of merry-making, in the independence of their women, and in their disinclination for hard work. They are, of course, Buddhists; they believe that at death the soul is conveyed across a river by a ferryman; and to pay this ferryman a small coin is placed in the mouth of the deceased by his friends. No doubt the Greeks derived their Styx and Charon from Egypt; did the Shans also? It is regrettable to learn that there are practically no articles of British manufacture in the country districts of the Northern Shan States; many articles come from China, cotton and muslin goods from India; all other goods not of native workmanship are "made in Germany." German goods are bought because they are exactly the things that the people want. There is not much allusion to the climate or to the illnesses of the Shans; the upland plateaux are healthy, "if certain precautions, such as mosquito-curtains, are taken against fever." The winter is healthy and pleasant; the hot season begins in March, in April there are violent wind-storms, the rains begin in May. Malaria prevails at the beginning and towards the end of the rains, "but as nearly all Shans use mosquito-curtains at night and the mosquitoes are not bad during the day there is less fever than in many other eastern countries." The Chinese Shans, however, suffer greatly from malaria, but we are not told whether they use mosquito-curtains. Goitre prevails in the hills, but Palaungs and Kachins (hill tribes) suffer more than Shans, and women more than men; the authoress thinks this may be because the women carry loads in such a way as to cause a strain on the neck. At the birth of a child the placenta and cord are given to the father, who washes them carefully, rolls them in a banana leaf, and places them in a hole under the threshold of the house "with a smiling face," thus will health and happiness to the infant be assured and increase of family to the parents. Two chapters on Shan history and literature by Rev. W. W. Cochrane add to the value of the book, which is capitally illustrated from photographs by the authoress, and conveys to the reader the vivid impressions of a keen observer.

*The Niger and the West Sudan, or the West Africans' Notebook.* By Captain A. J. N. TREMEARNE, Commonwealth Forces of Australia. London: Hodder and Stoughton. 1910. Pp. 151. Price 6*s.* net.—This book is meant as a small guide to intending visitors to West Africa in regard to the country, conditions of life, kit, provisions required, &c. The author, who is a lecturer and late Hausa scholar at Cambridge, does not pretend to be an "old Coaster," though he has had some experience of the countries of which he writes. The historical portions occupy from p. 3 to p. 30. A good description of the races at present inhabiting the land—the most important of which are the Filani and Hausas, both found in greater or less numbers in all the British West African Colonies—occupies the second part of the book, viz., pp. 31 to 79. Part III. describes the preparations for life on the West Coast, how to get there, and how to settle down on arrival. The river territory is next described, and is followed by chapters on travelling inland, the horse, the house, food and drink, health, pay and allowances, the postal and telegraph services, the native languages, military and police forces, sport and amusement, and appendices relating to the emoluments of the various official posts in West Africa. Each of the later chapters concludes with a few ordinary phrases in Hausa, which is the trade tongue, and serves throughout the Coast for general inter-communication. The book is written in an interesting, if occasionally somewhat slangy, style.

## JOURNALS AND MAGAZINES.

*Quarterly Journal of Microscopical Science.* Edited by Sir E. RAY LANKESTER, K.C.B., F.R.S., with the coöperation of ADAM SEDGWICK, M.A., F.R.S., SYDNEY J. HICKSON, M.A., F.R.S., E. A. MINCHIN, M.A., and GILBERT C. BOURNE, M.A., F.R.S. April, 1911. London: J. and A. Churchill. Price 10*s.*—Mr. C. Clifford Dobell makes an elaborate and interesting contribution to the cytology of the bacteria. He points out that the most divergent views are held regarding the various structures present in the bacterial cell, the reason for which he finds in the fact that the bacteria have been for many years entrusted to the bacteriologists, to the exclusion of botanists and zoologists. To the bacteriologist, however, the bacteria are but a means to an end—he studies them to cure a cold or make a cheese. Modern bacteriological methods are excellent and adequate when applied to medical diagnosis or industrial needs, but inadequate for a study of the bacteria themselves. Dobell has devoted four years to this study, and the present paper contains the greater part of the results of his work. His main object was to discover whether the bacteria are nucleate cells or

not. He makes a descriptive analysis occupying 13 pages of the most important work hitherto done towards solving the problem of the nucleus in bacteria, describes his own technique, and gives a detailed description of his own observations of various forms of bacteria, divided into the following five groups: cocci, bacilli, spirilla, fusiform bacteria, and a group of other organisms which resemble, but are not, non-motile rod bacteria. He then summarises his results and enters on a general discussion of the subject occupying 26 pages, from which he thinks the following chief conclusions are justified. All bacteria which have been adequately investigated are—like all other protista—nucleate cells. The form of the nucleus is variable, not only in different bacteria, but also at different periods in the life-cycle of the same species. The nucleus may be in the form of a discrete system of granules (chromidia); of a filament of variable configuration; of one or more relatively large aggregated masses of nuclear substance; of a system of irregularly branched or bent short strands, rods, or networks; and probably also in the vesicular form, characteristic of the nuclei of many animals, plants, and protists. There is no evidence that enucleate bacteria exist. The bacteria are in no way a group of simple organisms, but rather a group displaying a high degree of morphological differentiation, coupled in many cases with a life-cycle of considerable complexity. In regard to the alleged autogamy of bacteria, being, as asserted by Ruzicka, a sexual process, he refers to a former paper of his own, published in 1909, in which he gave what seems to him definite proof that no sexual process occurs during spore formation in the disporic bacteria, and he holds that there is strong evidence that the "sexual" phenomena are due simply to a suppressed cell division. In a paper on Cristispira veneris, nov. spec., and the Affinities and Classification of Spirochætæ, Dobell describes his researches on the spirochætæ of molluscs and adopts the name Cristispira Gross to denote the flexible spiral organisms which occur in the crystalline styles of many lamellibranchs. His researches lead him to the conclusion that the spirochætæ may be conveniently collected into a single group, for which he proposes the name spirochætoidea. This group comprises three different sets of forms, which may be correspondingly classified into three different genera—spirochæta, treponema, cristispira. These three groups of organisms, whilst showing certain resemblances to one another, possess no definite relations with protozoa, bacteria, or cyanophyceæ. The spirochætoidea should, therefore, be regarded for the present as a group of protista which stands apart. Mr. Cresswell Shearer contributes an article on the Development and Structure of the Trochophore of Hydroides Uncinatus (Eupomatus). Mr. George Smith continues his studies in the experimental analysis of sex, in which he says that the injection of testis extract into hens was found by him to have an entirely negative effect on the increase of the comb in eight out of nine adult and young hens, when compared with the fluctuations in growth observed in control birds, and that the injections had no observable effect on the health, body-weight, fertility, blood properties, or any other features, although very large quantities were administered over periods varying from 15 to 75 days. These experiments, which were done in the department of Pathology, Oxford, under the supervision of Professor G. Dreyer, he considers, show that, although Mr. C. E. Walker's observations[1] were doubtless correct, his conclusion that the increase of the comb is due to the testis extract injected is erroneous. There is, says Mr. George Smith, no evidence that the testis contains an internal secretion which, when injected into the female, can call forth the production of any of the male secondary sexual characters.

[1] Proceedings of the Royal Society of Medicine, vol. i., Pathology, p. 153, 1907–08. Abstracted in THE LANCET, March 28th, 1908, p. 934.

*Proceedings of the Royal Society of Medicine.* Vol. IV. No. 5. March, 1911. London: Longmans, Green, and Co. Price 7*s.* 6*d.* net.—The March issue contains many papers of interest. In the Epidemiological Section Dr. William G. Savage contributes an article on diseases of the cow (excluding tuberculosis) affecting the milk in their relationship to human disease. From this it appears that the great majority of cases of mastitis in cows are due to a micro-organism which is innocuous to man. The usual organism found in bovine mastitis is the streptococcus mastiditis, and this seems to be incapable of causing sore-throat or other disease in mankind. Dr. Savage further states that the great majority of all udder and teat lesions in the cow are not harmful to man. In the Laryngological Section a note on a case of primary sore of the vestibule of the nose and adjoining skin in a woman aged 38 is illustrated by a clear coloured plate. Mr. F. R. Smyth contributes to the Therapeutical and Pharmacological Section a paper on drugs used as local anæsthetics in the mouth, in which he advocates the use of novocaine as the most suitable obtundent for oral application. He believes that the condition of the gum tissue into which the injection is made is a factor of great importance in the production of local anæsthesia in the mouth. In the Pathological Section the subject of amaurotic family idiocy receives considerable attention. A long article, in two parts, on this rare disease of the nervous system is contributed by Dr. H. B. Carlyll and Dr. F. W. Mott, and is illustrated by many excellent photographs, photo-micrographs, and coloured microscopical drawings. The first part, which is mainly clinical, is by Dr. Carlyll, while Dr. Mott supplies an account of the histological and chemical examination of the nervous structures, and there is an appendix by Dr. Sydney A. Mann on the chemical examination of the brain in two of the seven cases described. The authors prefer the name "Tay-Sachs disease" to that which includes the word "idiocy." They consider that the disease is probably due to a failure in the germinal determinants of the nervous system peculiar to the Jewish race. The morphological changes are quite characteristic. Following this exhaustive contribution is a short article by Dr. Gordon M. Holmes on the pathological anatomy of another case of the same disease.

*The Quarterly Journal of Medicine.* Edited by WILLIAM OSLER, J. ROSE BRADFORD, R. HUTCHISON, A. E. GARROD, H. D. ROLLESTON, and W. HALE WHITE. Vol. IV., No. 15. April, 1911. Oxford: At the Clarendon Press. Subscription price, 25*s.* per annum; single numbers, 8*s.* 6*d.* each.—The contents of this number are: 1. Infection of the Urinary Tract in Children by Coliform Organisms, by W. M. Jeffreys. This paper embodies an abstract of 60 cases treated at Great Ormond-street Hospital during the past nine years. It is suggested that this disease is usually due to direct transference of organisms to the right kidney from the large intestine, when the latter has been damaged by some such cause as constipation. Treatment should therefore be directed especially towards the bowel condition. 2. The Third Sound and *B* Wave in Slow Heart Action: Some Possible Fallacies in the Interpretation of Records, by J. Davenport Windle. Examination of 193 healthy young people revealed a third heart sound, between the normal second and succeeding first sound, associated with an additional *b* wave in the jugular pulse tracing, in two instances. The pulse-rate was very slow and there was sinus irregularity in each case. 3. Paroxysmal Tachycardia of Very Brief Duration, by E. E. Laslett. This is a study of an elderly female patient suffering from frequent short attacks of tachycardia. 4. Modern English Cardio-vascular Teaching: a Rejoinder, by Thomas Lewis. The author here gives a detailed and comprehensive reply to Dr. Brockbank's criticisms

of various curves and their interpretation, published in *Heart* and the *Quarterly Journal of Medicine*. 5. A Study of the Alterations of the Hydrochloric Acid in the Gastric Juice, due to Carcinoma of the Stomach, by George Graham. It is maintained that the increase in the mineral chlorides is in the great majority of cases an earlier sign of gastric carcinoma than the diminution of the active acid. This is accounted for by the supposition that a malignant growth which has begun to ulcerate secretes an alkaline fluid which neutralises the acid in the stomach. 6. The Influence of Salicylates on the Cardiac Lesions of Chorea, by E. A. Cockayne. It appears that in ordinary doses the salicylates have no power to prevent the entrance of the organisms of rheumatism into the heart, or to stop their further activity when once established there. 7. The Viscosity of the Blood: a Review, by Clifford Allbutt. This is a most interesting and philosophical study. The practical conclusion is that "if as yet the estimation of viscosity be of little clinical service, it is desirable notwithstanding that academic observations on the subject should be pursued." 8. The Influence of Bacterial Emulsions on Phagocytosis, by F. Golla. This influence is stated to be decidedly inhibitory, while normal serum is said to protect the leucocytes against its antiphagocytic effects. This protective substance of normal serum is not specific. 9. Tuberculin in the Diagnosis and Treatment of Tuberculosis, by E. C. Hort. This is a practical guide in outline. 10. On Oxycephaly, by H. Morley Fletcher. An interesting account is given of this curious condition, which is characterised by a steeple-shaped skull, exophthalmos, and impaired vision. The author suggests that oxycephaly is a manifestation of a definite morbid process which affects most obviously the skull bones. Excellent photographs illustrate this paper. 11. Critical Review: The Treatment of Gastric Ulcer, by Edmund I. Spriggs. This is a wide survey of the medical methods of treatment adopted by British and foreign physicians. Very different methods seem to be equally successful in simple ulcer; but whatever line is followed the treatment must be continued so long as there is anæmia, if good results are to be obtained.

*Encyclopédie Médicale. Répertoire Bibliographique, Mensuel des Publications Médicales Françaises et Étrangères.* Paris: 32, Rue Madame. Subscriptions: France, 20 francs; foreign, 25 francs. Each number, 2 francs.—This is a new journal, the purpose of which is to make a list, often with abstracts, in alphabetical and encyclopædic order each month of the principal topics treated of in medical literature. Besides the alphabetical arrangement, the subject matter is also classified under 20 headings to facilitate reference. As a *résumé* of French literature it appears to be praiseworthy, but as representing foreign literature it is somewhat defective, for out of approximately some 735 titles we are able to find only 11 German, 3 Italian, 2 English, and 1 American.

*The Dublin Journal of Medical Science.*—"In Ireland there is no medical inspection of school children." So writes Mr. J. B. Story in a paper in the April issue of this magazine, in which he advocates the introduction into that country of the measures adopted in England and Wales. Mr. R. A. Stoney writes in favour of Luys's Urinary Segregator in Diagnosis, and Dr. W. Cecil P. Smyly discusses the Diagnosis of Renal Tuberculosis without mentioning this instrument; he notes that the administration of a dose of tuberculin may cause the appearance of tubercle bacilli in the urine.

*The Medical Chronicle.*—To the April number of this journal Dr. W. B. Warrington contributes a short note on Injury as an Etiological Factor in the Causation of Organic Nervous Disease, noting the importance of making sure that the symptoms complained of were really absent before the occurrence of the trauma. Dr. Elsie M. Royle discusses Metabolism in Malignant Disease, and states that the output of uric acid is greater in such cases than in ordinary hospital patients, while the excretion of phosphates is lower. Dr. C. Paget Lapage writes on the Diagnosis and Treatment of Malnutrition in Infants, and advocates "exact and scientific methods" in modifying milk—in other words, percentage feeding.

*The Birmingham Medical Review.*—In the April number Dr. A. Stanley Barnes records two cases of spinal tumour, the first of which was at one period mistaken for disseminated sclerosis owing to the presence of nystagmus (a congenital abnormality in this instance), while the second was noteworthy for the absence of pain in spite of the involvement of a sensory root. Mr. H. Beckwith Whitehouse writes on the prevention and treatment of puerperal sepsis, his paper not being concluded in the present issue. A review of recent work on internal secretion, written by Dr. D. Fraser Harris, deals with the chemical composition of the islands of Langerhans in the pancreas with diabetes, and also with the effects of alcohol on metabolism.

*West London Medical Journal.*—The present position of vaccine therapy is discussed by Dr. Harold Pritchard in the April number of this journal. He concludes that bacterial vaccines "are to be regarded as useful agents in the hands of cautious and experienced individuals," and thinks that in the great majority of instances sufficient guidance is afforded by a study of the clinical signs following an injection without estimation of the opsonic index. A paper by Dr. Herbert A. Smith entitled "On Melancholia: a Medical, Literary, and Artistic Study," deals with many aspects of this malady and is adorned by a wealth of quotations. The medical portion is somewhat difficult reading.

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THE Glasgow University Club, London, will hold a dinner on Friday, May 26th, at 7.15 for 7.30 P.M. precisely, at the Trocadéro Restaurant, Piccadilly-circus, under the chairmanship of Professor John M. Thompson. Members who intend to be present or to bring guests are requested to give early notice to the honorary secretaries, Mr. W. Craig Henderson and Dr. David S. Roxburgh, at 4, Bryanston-street, Portman-square, W. The annual general meeting of the club will precede the dinner at 6.45 P.M.

OXFORD UNIVERSITY DIPLOMA IN OPHTHALMOLOGY.—The annual course in ophthalmology began on May 1st. It consists of series of ophthalmologic lectures daily at 3.30 and 5 P.M., except Saturdays, and lasting over six weeks, with clinical lectures by the University reader in ophthalmology, and instruction in practical pathology by Mr. P. E. H. Adams, Mr. G. Coats, Mr. A. McNab, and Mr. M. S. Mayou (the fee for this course is £8); of lectures on the Anatomy of the Eye, by Professor A. Thomson, on Wednesdays and Thursdays at 2.15 P.M. (fee for the course £2 2*s.*); and of Practical Instruction in Physiological Optics, by Dr. J. L. Bunch, on Wednesdays and Thursdays at 10.30 A.M. (fee for the course £2 2*s.*). Candidates holding any qualification registrable in the United Kingdom, as well as graduates of foreign or colonial universities recognised by the Board of the Faculty of Medicine, are eligible. The lectures have been so arranged that those engaged in London can leave by the 1.45 train from Paddington. The examination will be held on July 17th, when those who have satisfactory certificates of attendance on the above courses as well as on a course of instruction for one year in a special hospital or department recognised by the Board of the Faculty of Medicine will be admitted to the examination. Qualified medical men and registered students not seeking the diploma may attend the lectures on ophthalmology for a fee of £3 3*s.*, and a limited number can receive clinical instruction for a further fee of £2 2*s.* Further particulars may be obtained on application to the Reader in Ophthalmology, Mr. Robert W. Doyne, 30, Cavendish-square, London, W.

THE LANCET.

LONDON: SATURDAY, MAY 6, 1911.

# The Goulstonian Lectures on the Sensibility of the Alimentary Canal in Health and Disease.

DISORDERS of the digestive tract probably occur more frequently than disturbances in any other system of the body. They give rise not only to physical discomfort and pain, but the mental effects are numerous and various; any advance, therefore, in the knowledge of the physiology and pathology of the stomach and intestines should be investigated and criticised with a view to its practical application in the relief of disease. The nervous factor in gastric digestion has been carefully studied by Professor PAWLOW, who made some fundamental researches on the subject with remarkable success. Professor KUSSMAUL and VON LEUBE introduced the use of the stomach-tube for purposes of treatment and diagnosis, which opened up new methods of investigation and yielded valuable results. The use of the X rays was a further advance which, together with the frequency of abdominal operations for diseases which were formerly regarded as quite outside the province of the surgeon, have been the means of indicating the true significance of many symptoms which were universally misinterpreted until quite recent times. Dr. JAMES MACKENZIE, also, in his work on "Symptoms and their Interpretation," made some interesting remarks on the want of sensation to ordinary stimuli in the intestinal mucous membrane, to which due reference is made in these lectures. A sense of fulness and distension often amounting to actual pain are such frequent symptoms of faulty digestion that the origin of these symptoms has given rise to much discussion, and various theories have been propounded as to their origin. In delivering the Goulstonian lectures before the Royal College of Physicians this year Dr. A. F. HERTZ has set forth the results of his investigations on this subject. We publish the third of this series of lectures in our columns this week, and commend their perusal to our readers, as Dr. HERTZ's conclusions will be found to be full of interest, presenting as they do many new ideas, and suggesting that some of the views hitherto held as to the cause of many common symptoms are not correct.

Tactile sensibility was first considered, and Dr. HERTZ concluded that the alimentary canal from the commencement of the œsophagus to the junction of the rectum with the anal canal is completely insensitive to tactile stimulation. This result has been arrived at by other observers, but corroboration or otherwise of previous investigations is always of value. A similar conclusion was arrived at in reference to the thermal sensibility of the stomach and intestines. Still more interesting is the study of the sensations produced by chemical stimulation. It has generally been assumed that the pain which is often associated with the presence of excess of free hydrochloric acid in the stomach is due to that excess alone. Dr. HERTZ and his fellow workers have shown, however, that the mucous membrane of the œsophagus and stomach is insensitive to stimulation by dilute hydrochloric acid and certain dilute organic acids. The effect of butyric acid, by the way, is not mentioned, and it would be interesting to know if tests with this acid were made. The pain of gastric ulcer has also been attributed to an excess of acid acting on the affected membrane. Dr. HERTZ points out that 0·5 per cent. hydrochloric acid produces a smarting pain when applied to an abrasion of the skin, and it might be expected that it would cause pain when applied to a gastric ulcer, but in six cases, in all of which the diagnosis was confirmed by operation, 4 oz. of 0·5 per cent. of the acid introduced by a tube into the empty stomach produced no sensation whatever. Similarly the sensation of heartburn or pyrosis has often been ascribed to the regurgitation of hydrochloric acid into the œsophagus. Dr. HERTZ's observations also negative this theory. That the acid is in some way connected with the production of pain, however, is probable, as relief always follows the administration of an alkali, and he considers that the action of the acid is to induce violent peristaltic action, which causes an increase of pressure within the viscus. Before discussing this point he gives an account of the effects of other chemical stimulants. The action of alcohol is especially dwelt upon. He shows that the introduction of alcohol into the stomach produces an immediate effect, and he thinks it possible that the alcohols, which may be formed in the stomach in considerable quantity by the action of yeast and sarcinæ on carbohydrates, are the cause of heartburn when present in excess, and that their regurgitation into the œsophagus gives rise to the burning sensation which may be felt beneath the sternum in such cases. Fermentative processes, of course, frequently take place in the stomach, and in this connexion we may refer to a suggestive article which we recently published [1] by Dr. BERTRAND DAWSON on the Microbic Factor in Gastro-intestinal Disease, in which he gives the results of investigations he has made in reference to the micro-organisms found in the stomach, some of which aid in the production of fermentation.

Dr. HERTZ, in discussing the causation of fulness and distension, shows that these symptoms are due to a slow increase in tension exerted from within on the circular muscular fibres of the stomach and intestine. The muscular coat is stretched and thus a form of muscle-sense is constituted. For each part of the alimentary canal a certain tension, which varies in different individuals, is required in order to produce the first trace of sensation, but the relative sensibility of different parts of the alimentary canal to distension cannot be ascertained with any degree of accuracy. Dr. HERTZ, in considering the causation of actual pain in the various parts of the intestinal canal, arrives

[1] THE LANCET, April 29th, 1911, p. 1124.

at a similar conclusion—namely, that the only immediate cause of true visceral pain is tension; this is, he says, exerted on the muscular coat of hollow organs and on the fibrous capsule of solid organs. The sensation of pain in the alimentary canal is due to a more rapid or greater increase in tension on the fibres of its muscular coat than that which constitutes the adequate stimulus for the sensation of fulness. These considerations are corroborated by clinical experience. After fermentation has commenced in the stomach, for instance, a sense of distension is first experienced, which more or less rapidly culminates in pain, often of an intense character. If the stomach can be emptied by natural or artificial means the pain at once subsides and no sedative drugs are required. The practical conclusions to be arrived at are of considerable importance, the principal one being that to which we have just alluded—namely, that the relief of tension is the important element in the therapeutics of those disorders in which distension and pain occur. Other elements, however, have to be guarded against, as, for instance, the inhibition of the muscular movements of the stomach in certain conditions. We have referred in our remarks mainly to Dr. HERTZ's contention in regard to the stomach, but his observations on intestinal conditions are of equal interest. The whole of his investigations mark a distinct advance in our knowledge of the pathogeny of certain affections of the digestive tract, and doubtless his conclusions will be an incentive to further investigations into the nature and treatment of disorders of digestion.

## The Seventieth Anniversary of the Pharmaceutical Society.

IT is one of the commonplaces of history that the union of men engaged in a common task and having a common purpose is essential for the successful performance of the task and the easy attainment of the purpose. The history of the Pharmaceutical Society, which this year reaches what in individuals is called the allotted span, illustrates this truth. Seventy years ago the sale of poisons and the practice of pharmacy were carried on by a heterogeneous mass of tradespeople who, with some exceptions, were entirely without scientific knowledge, were ill-equipped with the materials of their business, and owed allegiance to no central body. There were, it is true, certain apothecaries and dispensing chemists on whom physicians could rely for sound drugs and accurate compounding, but acting as isolated units they were incapable of improving their calling as a whole or of advancing the science of pharmacy to any marked extent. They were brought together early in the year 1841 to defend their common interests, and although the immediate purpose of their union was not one which commended itself to practitioners of medicine, time has proved the outcome of the union to be of incalculable benefit to therapeutics. A Bill having been introduced in the House of Commons which would have made it penal to recommend any medicine for the sake of gain, a meeting of chemists and druggists was convened to consider what should be done to oppose the Bill, and so vigorous was the action taken as a result of that meeting that the measure was ultimately withdrawn. Stimulated by their victory, and in order to be prepared for future emergencies, a few of the leaders thought it expedient to establish a permanent organisation. Accordingly a meeting was held at the Crown and Anchor Tavern in the Strand on April 15th, 1841, at which it was unanimously resolved to form an association, under the title of the Pharmaceutical Society of Great Britain, "for the purpose of protecting the permanent interests and increasing the respectability of chemists and druggists."

On June 1st the first meeting of the society was held, and WILLIAM ALLEN, F.R.S., was elected President. In their choice of president the founders showed their wisdom, for there can be little doubt that it was mainly owing to his powerful influence that in the early days the society made such rapid progress. WILLIAM ALLEN practised as a chemist and druggist in Plough-court in the City; he was a man of scientific attainments of no mean order, but, what was still more important, he had friends in high places. He was, in fact, one of the executors of the Duke of KENT, the father of Queen VICTORIA. The first aim of the society was to improve the education of those who practised pharmacy, for the founders recognised that before any protection could be obtained from the State it would be necessary to show they were deserving of protection. And so it came about that before the end of the year 1841 a course of lectures had begun at 17, Bloomsbury-square, which was then, as now, the society's headquarters. The policy was initiated of securing as lecturers scientific men of high repute, a policy which has been maintained ever since. Four years later a chemical laboratory, the first of its kind in this country and the equal of those existing at that time in Germany and France, was constructed. A system of examination was instituted, and in the course of some years physicians were able to avail themselves of the services of a new class of men well-equipped by training and education for the purpose of their calling. In the meantime a Royal Charter of Incorporation had been obtained, and thus before the society was two years old it acquired a permanent status. Not for many years, however, did the society obtain statutory recognition for those who had passed its examinations, and it was not until 1852 that an Act was passed which restricted the use of the title of pharmaceutical chemist to those who had earned it. Sixteen years later there was a further enactment which reserved the retail sale of scheduled poisons for registered persons and protected the title of chemist and druggist. The practice of pharmacy has never been restricted by legislation, and indeed the purpose of the Act of 1868 has been to a considerable extent frustrated by the fact that owing to an oversight in the drafting it left a loophole for companies of unqualified persons which allowed them to do what an unqualified person could not do. This unfortunate flaw has had the effect of minimising the value of the legislation from the point of view of registered persons and the public, and the Act of 1908 only remedies the matter partially. From the standpoint of practitioners of medicine, however, what was required was something to enable them to distinguish trained and examined persons from those who had not passed the society's tests; and the Acts of 1852 and 1868 served

this purpose fairly well. The measure of protection afforded by pharmaceutical legislation, however inadequate, has been sufficient to enable the Pharmaceutical Society to maintain its high educational standard and to foster the spirit of progress in those who practise pharmacy. Seventy years ago the means of communication between chemists and druggists for the purpose of exchanging views and suggesting improvements in methods of preparing drugs can hardly be said to have existed. Those were the days of the unsightly and unpalatable bolus, the black draught, and the uncoated pill. To-day we have the cachet, the capsule, and, what is more important than all, the standardised galenical preparation. By its encouragement of pharmaceutical research the society has exercised, indirectly, an important influence on therapeutics, for failing products whose strength could be exactly determined, pharmacological research would lose much of its usefulness and medical science would suffer as a consequence.

Without danger of giving praise where it is not due, it may be said that the Pharmaceutical Society has either directly or indirectly, through its members or through those whom it has educated or encouraged, laid the foundation for many of the most important improvements in pharmaceutical methods that have taken place during the 70 years of its existence. With the nature of the work which the society or its members have done in connexion with the Pharmacopœia most readers are familiar. Until 1864 there were different pharmacopœias for England, Scotland, and Ireland, and in 1845, at a pharmaceutical meeting, Mr. PETER SQUIRE, one of the society's early presidents, pointed out the evils which would result from the discrepancies in the formulas of the three codes. Thus the hydrocyanic acid of the London pharmacopœia was 2 per cent. in strength, and of the Edinburgh pharmacopœia 3½ per cent. The solution of morphine hydrochloride of the London volume contained 8 grains to the ounce, and of the Edinburgh pharmacopœia 4 grains. It was not, however, until 1864 that the first British Pharmacopœia was published, and in connexion with the compilation of this and subsequent editions the Pharmacopœia Committee of the General Medical Council received important assistance from the Pharmaceutical Society. Of the purposes for which its charter was granted, the advancement of pharmacy, by which is meant the science of pharmacy, must ever remain the most important if the Pharmaceutical Society is to retain the high esteem in which it is held, and its present efforts to improve the existing system of pharmaceutical education give reason to believe that the society is of the same opinion.

## Hospitals and Operations on Children.

IN an inquest at Southwark recently an interesting question was raised with regard to the performance of operations upon children and the necessity for first obtaining, whenever possible, the consent of the parents or custodians of the child. The general attitude of the law towards surgical operations—a very wide term—is that the consent of the patient must be obtained after explanations of the reason for the operation and of the probable results of its performance or non-performance have been given. Further, an operation, to speak generally, must not go further than that to which the patient has consented. In some circumstances it may be necessary that it should do this, and in many it may be very advisable, but the onus of deciding how far he shall exceed the permission given to him forms part of the responsibility imposed by his position upon the operating surgeon. In some cases it is clear that the consent must be given by some one more or less intimately connected with the patient, who will take the responsibility on his behalf (for convenience we speak of the patient as a male throughout) because, through an accident or from some other cause, the patient may not himself be in a condition in which his consent can be obtained, while the urgent need for operation may preclude the possibility of waiting. This is likely more frequently to be the case in hospitals than in private practice, and in them instances must arise in which an operation is absolutely and urgently needed to save life, when the patient is incapable of consenting and no one competent to give consent on his behalf is present, while there is no time to call any relatives into counsel. When this is the case it is plainly the moral duty of surgeons to take upon themselves the responsibility of operating, and we are not aware that any blame has ever been imputed to them for so doing by the patient whose life or limb has been saved by their prompt attention. In the event, however, of the operation not proving successful, the surgeon may have to face the recriminations of the patient upon whose limb he has ineffectually operated without his consent; while his friends, should he succumb, may feel that had their opinion been asked the sad issue would have been avoided. In the case of children the consent on the child's behalf of the parent, or some other adult person competent to give it, must be obtained whenever it is possible to do so; but children, like grown-up persons, must sometimes need to have an operation performed upon them without waiting to find out who is the father or mother and what views they may hold. In such cases the conscientious surgeon has no alternative but to assume the responsibility, whatever may be the consequences. In the case to which reference has been made Dr. F. J. WALDO held an inquest upon a child who was stated to have been run over by a van and to have had his leg injured. The precise injury is not material nor the precise nature of the operation which it was proposed to perform when upon a subsequent day the father took the child to the hospital. It was a case, not for deciding in the absence of parental consent to operate, but of operating in direct opposition to the parental wish; the father, having brought the child to the hospital, refused his consent at first to the proposed operation, and only gave way to persuasion and advice after delay had taken place. After the deferred operation had been performed the child died, and the question whether in this particular instance life would have been saved if there had been no waiting need not be considered here. It must be obvious that in easily conceivable cases delay would be responsible for subsequent death, and also that it is in the power of a parent to cause such delay or to deprive the child altogether of the benefit of suitable surgical aid.

At the inquest in question Mr. F. KAHLENBURG, who was called as a witness from Guy's Hospital as to what had taken place there, drew attention to the difficulty which had arisen, and to the position in which surgeons were placed by the lack of authority to operate according to their own discretion. He suggested as a remedy that operations should be performed after consultation held by two or three members of the surgical staff of the hospital without waiting to obtain parental approval, and he dwelt upon the fact that, in the case of children injured in the streets, and brought in by policemen or neighbours, consent often took a long time to obtain, apart from any question of its being deliberately withheld. He referred obviously to such operations as may be delayed for a few hours without immediate and certain danger to life, for no one will gainsay that where immediate steps are necessary they must be taken. Commenting upon Mr. KAHLENBURG'S suggestion, which he had courteously invited, Dr. WALDO remarked that the change in the law proposed by Mr. KAHLENBURG was a serious one, but that it was one which might fittingly engage the attention of Parliament if some Member could be found to take the matter in hand. With regard to the seriousness of the alteration which would be effected if an Act of Parliament were to authorise a committee or combination of surgeons to sanction an operation upon a child without waiting for parental consent, or in the teeth of parental opposition, the innovation will appear less serious in principle if we take into consideration that the Children Act, 1908, while embodying provisions already existing in previous statutes, makes it criminal neglect in a parent or guardian to fail to provide medical or surgical aid for a child or young person. If the father who withheld consent to a certain operation after he had brought his son to Guy's Hospital had neither taken him there nor called in a medical man, although he had been told that the child had been run over and could see that he was suffering pain, he would clearly have been guilty of neglect under that Act. Nevertheless, as far as we are aware, he committed no such offence in refusing an operation recommended by the surgeons whom he himself was consulting, for it seems illogical to suggest as matters stand that a parent's consent is necessary to a certain course being taken and that at the same time the law can punish him if he withholds such consent.

It would not, however, involve any great extension of the principle contained in the section of the Children Act already referred to (Section 12) if it were to be enacted in express terms that to refuse the recommendation of a surgical operation might be deemed in certain circumstances to be neglect. It would be necessary to define the nature of the recommendation by providing that it should be made by a surgeon or surgeons of a position calculated to command confidence, and also that there should be facilities within the parents' reach for having the operation performed. The provision, moreover, would have to be so framed that it would be capable of general application in appropriate cases. To give to surgeons in hospitals power to insist in these matters, which is not possessed by them in their private practices, would be to impose upon the poor conditions from which their richer neighbours would be free and if it were to be made a special feature of hospitals that operations could be performed in them without the consent or against the will of parents, recourse would not be had to them in many cases where now, under advice, operations are duly performed.

# Annotations.

"Ne quid nimis."

## SPRING "FEVER."

WE are not aware that any authoritative opinion has ever been offered in explanation of a curious phenomenon which sometimes quite consciously, and at other times unconsciously, affects most people about this time of year. It has been variously described as "a sort of restlessness," or "a feeling of recklessness and adventure." Some people assert that they experience an added piquancy in life and a general quickening of perception. Others, again, feel an unwonted depression; to the majority, however, the spring season is certainly felt as giving fresh buoyancy and a feeling of hopefulness in life. Making due allowance for those whose imagination merely may be stirred by the creative power of spring, as evidenced in the almost imperceptible stirring of all animal life, by the arrival of those most desirable of aliens, the tribe of bird immigrants, or by the tender green of leaf and bud,—these sensations, we venture to think, must surely be the natural expression of a definite physiological state which recurs annually at this time of year. Man, to our knowledge, has never actually hibernated. He has had to seek his food the year round or pay forfeit with his life. Before the introduction of artificial light, which was but a matter of yesterday in the history of the human race, it is probable that for long ages he must have lain in a kind of slumberous lassitude during the dark winter days and long nights, waiting for the sun's brief reign to enable him to seek his food. During this period of the year all his functions would be depressed; his blood pressure would be low. Only when the sun strengthened and the days lengthened would there be a rise in blood pressure, and this, we think, may be, in some measure at least, an explanation of the "restlessness" so many of us feel at this season of the year. The sap in the tree rises more quickly in the spring than at any other time, and so far, perhaps, the analogy may be pressed. The reproductive organs naturally share in the increased blood pressure, and an enhanced sexual activity results. Although the poets delight in describing Spring as a fickle and sportive young maid, there is at least no mistaking Nature's seriousness in her arrangements for wooing and wedding. The fierce and unconquerable note of the nightingale, the madness of the March hare, all bear witness to Nature's intensity of purpose in one direction—reproduction.

## DANTE AND HIS SCIENCE.

MEDICAL men in practice have as a rule but little time for the cultivation of the arts, but such of them as do find the leisure pursue their subject with enthusiasm, and we need only mention the names of Greenhill and Payne among those who have passed away as examples. Among the living we may cite Dr. D. Lloyd Roberts, who recently delivered a lecture upon the wisdom of Dante before the Dante Society of Manchester. In the Middle Ages the acquirement of encyclopædic knowledge was more easy than now, for the simple reason that a knowledge of Aristotle practically meant the knowledge of all that there was to be known. And as regards

medicine this science was bound up with Aristotelian physiology and consequently with Aristotelian philosophy. Hence in universities, and specially in those of Italy, there was an intimate connexion between medicine and arts—a connexion which survives to some extent in the Universities of Oxford and Dublin at which graduates in arts are alone eligible for admission to degrees in medicine. Anyone desirous of participating in the government of Florence had to be a member of one of the city guilds, and it may have been owing to the interest which he took in medicine that Dante chose to belong to the Guild of Physicians and Apothecaries (Arte dei Medici e Speziali). It may be noted that the word "Speziale" is derived from the mediæval Latin "Species," meaning a costly drug, and has passed into English as "spice." As regards Aristotle, who is referred to as "master of those who know" (Inf. iv., 131), Dante in his various writings quotes from him about 150 times, and mentions two translations which he calls the Old and the New. The former was probably that made by Michael Scott from the Arabic at Toledo; the latter that made or caused to be made by St. Thomas Aquinas directly from the Greek. Aristotle then was the main source from which Dante derived his science, but for astronomy he was deeply indebted to the Arabic astronomer Alfraganus. He was acquainted with Hippocrates and Galen, who are placed among the philosophers of antiquity in Limbo, and they are both mentioned in the Convivio, where the Aphorisms of Hippocrates and the Tegni of Galen are coupled together as appropriate gifts from a physician to a knight. And Dante's personal view of knowledge is well summed up in his own expression: "Philosophy is a loving use of wisdom, which chiefly is in God, since in Him is utmost wisdom, utmost love, and utmost actuality" (Conv. iii., 12).

## A CORONER'S YEAR IN THE CITY AND SOUTHWARK.

WE have before us the report of Dr. F. J. Waldo, prepared by him for the information of the Lord Mayor and Common Council of the City of London, as to his work as coroner during last year. As is well known, Dr. Waldo is coroner not only for the City but also for Southwark, and his double jurisdiction enables him to supply interesting facts for study and comparison. During the year 1910 he held inquests upon 401 bodies, 165 in the City of London and 236 in Southwark, and the contrast between the conditions of inhabitation in the two districts is well marked by the proportion borne by deaths of males to those of females. In the City there were inquests upon 121 dead males and upon only 44 females, whereas in Southwark the proportion was 146 males to 90 females. Of the total referred to there were found to be 258 cases in which death was not due to natural causes, and of these deaths 195 were caused by accidents, 28 by criminal acts, 4 by want and exposure, 10 by excessive drinking, and 2 by want of attention at birth. The fatalities due to mechanically driven vehicles, which include tramway cars, are naturally a subject to which public attention is directed during the present period of development of motor traffic, and of a corresponding diminution in the employment of horses. The recent Home Office return for the United Kingdom has shown that in that area there were reported to the police during 1910 31,077 street or road accidents caused by vehicles of all kinds, of which 1327 were fatal, and of these fatal cases 19 were reported in the City of London. Dr. Waldo appears to have ascertained by inquests that in the city 17 were actually due to accidents involving vehicles, which in 13 instances were mechanically propelled, and only in 4 were drawn by horses. The difference between conditions in the City and in Southwark is here again shown, for in the latter jurisdiction 8 deaths only were due to mechanically propelled vehicles as compared with 14 in which vehicles drawn by horses were to blame. It may be noted, in passing, that the Home Office return to which reference has been made gives but one death due to a horse-drawn tramway-car in the London area, as against 24 caused by electric tramway cars, a proportion which reminds us of the virtual disappearance of the former mode of traction from the metropolitan lines. Two sets of figures included in Dr. Waldo's report must be noted with regret, but not perhaps with surprise, by those who hardly anticipated effective prevention of overlying and of the accidental burning of children by the provisions in that behalf contained in the Children Act, 1908. In 1910 Dr. Waldo held inquests upon 15 bodies of infants suffocated while in bed with their parents or others, and of 23 deaths due to burns or scalds (only 3 being from the latter cause) all except 3 were those of children under the age of seven years. Dr. Waldo and the juries over which he presided called attention during the year to many matters containing elements of danger to the public and relevant to the inquiries before them, such as the working of the Cleansing of Persons Act (1897) and of the Midwives Act, 1902, and the causes conducing to fatal results from measles among the poorer classes of the population. An interesting subject touched upon in the report is the success attending the introduction in the City of Herscher's apparatus for the preserving of dead bodies by formalin pending identification and inquiry. The general adoption of scientific methods to secure the identification of the dead and the detection of crime without danger to the public health is of considerable importance, and in such districts as those adjoining the river Thames in London, and in any others where many inquests are held during the year, the course adopted by the City of London should receive careful attention from the local authorities concerned. We note that Dr. Waldo made inquiry without holding inquests in 56 cases of death reported to him in his two jurisdictions during 1910. Presumably this number would be increased if means were afforded to the coroner for securing the holding of a post-mortem examination without first ordering an inquest. This subject was referred to in the course of an inquest held by Dr. Waldo recently in Southwark, in which post-mortem examination had shown none but natural causes to be responsible for the death inquired into. The proposed innovation will, no doubt, be introduced whenever the powers and duties of coroners are again the subject of legislation, and with proper safeguards will be of advantage to the public and of assistance to coroners, but the general amendment of the law relating to coroners hardly seems likely to occupy the attention of the Government at present, and the prospects of Bills privately introduced becoming law appear to diminish annually.

## SKIN GRAFTING.

WE have received a suggestion from America that as it is generally considered, at least popularly, that the pig resembles man greatly in his structure and conditions skin grafts might be taken from the pig. The suggestion is worthy of consideration, for surgeons have often no little difficulty in obtaining a sufficient quantity of skin-grafts, but the use of the skin of the pig for this purpose is not entirely novel. In 1877 T. F. Raven had to treat a large ulcer of a little girl resulting from a burn. He employed some 300 skin grafts made by Reverdin's method from the patient herself, but he supplemented these with 20 others taken from a pig. One difficulty in employing the skin of the lower animals is that these contain hairs or bristles which are generally not desirable on the human skin. We are not

aware of any recent experiments on the utility of the transference to man of the skin of the lower animals, but it is quite possible that much more may be done in this direction. The transplantation of portions of the skin, though a comparatively modern procedure, is based upon facts which were observed many years ago, for it has long been known that a small portion of the skin, having been cut off by accident, will sometimes survive if it be replaced. Hoffacher, who was officially present at duels at Heidelberg, reported several cases in which portions of the nose which had been slashed off grew again when replaced. In one case the portion of nose cut off was seized by a dog, and it was only rescued with difficulty, yet when put once more into its right position it soon adhered and survived. The first definite attempt to fill up ulcers with portions of skin was made by Reverdin in 1869. His method was widely employed for many years, and even now is sometimes used. It has, however, been largely replaced by the Thiersch method, in which thin layers of epidermis are made to cover the whole raw surface. A third method is also sometimes employed and is named after its inventor Wolfe; in this the graft consists of the whole thickness of the skin and is large enough to fill completely the raw surface. In all these cases the question of the source of the grafts presents no little difficulty. Sometimes they are supplied by the patients themselves, sometimes they are obtained from others. Occasionally, however, neither of these sources is available, and so it has happened that from a very early period of skin grafting attempts have been made to obtain skin from other sources. In 1870 Vulpian showed that the spur of a fowl could be transferred to the comb. Attempts have been made to employ the skin of animals. In the seventeenth century, or so it is reported, a soldier lost a large part of the hairy scalp and the surgeon replaced it with a portion of skin of the same shape taken from a dog which he had killed for the purpose. It is said, however, that the surgeon was threatened with excommunication if he did not operate once more on the soldier and remove the canine tissues.

## THE OPERATIVE TREATMENT OF URETERAL CALCULUS.

IN the February number of the *Annales des Maladies Génito-Urinaires*, Dr. Rizat has published a translation of an important article on this subject written by Dr. Fabricannte of Kharkoff. The paper originally appeared in the *Vratchebnaia Gazeta*, and contains a useful summary of our present knowledge of the subject, and Dr. Fabricannte describes an interesting case that was under his care. A girl aged 17 suffered acutely for more than three years from pain in the region of the right kidney, passing downwards towards the middle line, and at times the pain was so severe as to cause her to cry out. From the signs and symptoms a diagnosis of stone in the right ureter was made, and the skiagram showed the stone to be situated in the ureter close to the bladder. At the operation an incision was made a little behind the mid-axillary line, beginning two fingers' breadth above the iliac crest and curving forwards and downwards to a point a finger's breadth above the anterior superior spine and continuing to near the outer border of the right rectus. When the peritoneum was exposed it was raised and turned inwards, and the ureter was lifted up with the peritoneum and followed till it entered the bladder. Immediately external to this the calculus was felt. The ureter was incised, and the calculus, which was of the length of a date stone but a little bigger, was removed. By means of a sound the ureter was found to be pervious, and palpation of the kidney did not show any abnormality. The longitudinal incision into the ureter was sewn up with Lembert sutures so as to make a transverse scar, and the patient recovered perfectly. Dr. Fabricannte discusses the question of the diagnosis and of the operation for ureteral stone, and he arrives at the following conclusions:—1. Ureteral calculi are rare. 2. Whenever a patient has renal colic the ureter must be examined as well as the kidney. 3. Although clinical exploration is of value the greatest help is to be found in radiography. 4. There are three sites at which a calculus is likely to be arrested in the ureter: (*a*) about an inch below the pelvis of the kidney; (*b*) at the point where the ureter crosses the brim of the pelvis; and (*c*) the point where it passes through the bladder wall. 5. If a calculus has been formed in the ureter it may remain where it has formed. 6. The extra-peritoneal route is by far the best for removing the calculus, and the best incision is that described above. 7. In cases especially favourable an attempt may be made to remove the calculus by an incision through the vaginal wall. 8. When the peritoneum is raised and the ureter with it, it is not necessary to separate the ureter from the peritoneum when opening the ureter.

## MEDICAL LETTER-WRITING.

THE physician can often reinforce the impression he has made on a patient at an interview by judiciously going over the ground again in a letter. Our patients are reassured when they see the words of counsel in black and white. If the physician is to be the guide, philosopher, and friend of those who consult him, he cannot afford to ignore the opportunities which letter-writing presents of pursuing treatment. No method, needless to say, resembles less the "diseases-cured-by-correspondence" trick of the quack, for so far from taking the place of a personal interview, it seeks to water the seed which has in that way been already planted. Of course, there are certain conditions to which the method is more applicable than to others. It is in the realm more particularly of nervous disease, of so-called functional nervous disease, that it can attain its fullest development. The patient is often somewhat excited, or depressed, or confused when he enters the consulting-room, and he may not appreciate the force of what is said to him, but when he reads it again some days later the summation of stimuli may be very effective. A few years ago Professor Oppenheim of Berlin published a little book, since translated, we believe, into English, entitled "Letters on Psychotherapeutics," consisting of letters supposed to have been written by the author to patients under his care. As a matter of fact, they are really expansions of letters actually written, with which is incorporated advice given orally at various consultations. The brochure reveals a delightful combination of commonsense, knowledge of human nature, worldly wisdom, and neurological experience, and is well worth the attention of all whose daily work leads them into intimate contact with the neurasthenic. Two small volumes lie before us in which Dr. Joseph Collins of New York has gone a step further. They are entitled "Letters to a Neurologist,"[1] and contain a series of brief answers added to the communications purporting to come from patients of the author. We presume that the audience to which the "Letters" are meant to appeal is a medical audience, for some of the replies to patients are couched in language that must be, we should think, obscure to the public, even in Boston. "We physicians speak of migraine as a nervous disorder of degeneracy or deviation. By thus designating it we endeavour to indicate that it occurs in individuals whose evolutionary

[1] Letters to a Neurologist, to which are Appended Brief Replies Purporting to Set Forth Concisely the Nature of the Ailments therein Described, with Remarks on their Appropriate Treatment. By Joseph Collins, M.D. New York. (Reprinted from the Medical Record.) First series. New York: William Wood and Co. 1908. Second series, 1910.

development has not been sufficiently harmonious to allow the different components of the finished product to so work in unison that the result is a symphony, emotional, intellectual, or physical." What consolation this may convey to a particular sufferer torn with pain we do not pretend to conjecture, but while similar criticism might be applied here and there, there is a great deal of shrewd common-sense and observant knowledge of human nature to be found in these little volumes. The letters of the patients to the author afford abundant intrinsic evidence of their origin, and form pleasant and sometimes amusing reading. They are enriched with apt quotation and illustration, and if the reader is momentarily arrested by such Americanisms as "Very likely your grandmother had some oddity of her mental, emotional, or physical make-up," or "I do not wish you to think this is my say so," none the less he will not be able to scan the pages without finding much that is both instructive and fresh. Letter No. V. in the second series is supposed to emanate from an "expert patient," who tells us that her experience began with the jovial doctor who pinched her nose and ears and said, "Tut! tut! this won't do," and includes the ultra-scientific physician who so confused her that she was not sure whether "proteids" meant a disease or something to swallow. The author's reply to this racy patient contains a hint that it is time the bedside manner were dropped, and we are told that "in England, for instance, the country in which the bedside manner has its greatest development, convention prescribes the top hat and frock coat. A physician would as soon venture to call upon the patient without the latter as without the former." Dr. Collins is speaking here without familiarity with facts. He quotes some passages from our own William Maclure of Drumtochty to show the insignificance of dress. When a second edition is called for we trust the opportunity will be taken to correct the following curious errors: "She is of the kind that puts the physician on his metal" (p. 79), and "a certain gleam in the eyes of a wood-be lover" (p. 14). It is a pity to have obvious blemishes in a readable and even an enjoyable book.

## QUININE, ITS ADMINISTRATION AND ITS DANGERS.

THE study of quinine administration and therapeutics is naturally more pursued in tropical countries, for there it is a drug of daily employment; indeed, in some parts, as on the West Coast of Africa, it would hardly be an exaggeration to speak of it as an article of diet. It is not, or used not to be, an uncommon thing for a person to take up the quinine bottle, which usually stood on the sideboard or some other handy place, and shaking out a saltspoonful or more on the palm of his hand, swallow it without desisting from his occupation, much as one might abstractedly munch a chocolate cream. An Indian correspondent calls attention to a paper by Captain A. C. MacGilchrist, I.M.S., on the Solubility and Absorbability of Quinine and its Salts, recently issued as a scientific memoir, the chief conclusions of which he summarises as follows:—

Most of the quinine admitted by the mouth is, under ordinary circumstances, absorbed from the small intestine; a slight amount from the stomach, especially if administered while fasting and in the form of an easily soluble salt in water; a relatively smaller amount by the large intestine. Affections of the gastro-intestinal tract and liver influence the amount absorbed, as also do the food contents and the degree of solubility of the salt given. Absorption is retarded if quinine is given with, or soon after, food, and also when the less soluble salts are employed. Rapid and energetic absorption is best obtained by giving a soluble salt during fasting; gradual and prolonged absorption by administering a less soluble salt with, or soon after, meals; under such conditions absorption is maintained at a considerable level for about eight hours. Thus, when sporulation is regular, a soluble salt should be given during fasting, two or three hours before the paroxysm; in other cases one of the less soluble salts should be given with, or soon after, meals, every eight hours. Soluble quinine salts should not be given in capsules, for gastric irritation may follow their release *en masse* on solution of the capsule. When quinine causes gastric irritation the least soluble salts—e.g., the tannate—should be given. Large doses of quinine—e.g., 15 grains thrice daily—give better results than fractional doses, such as 4 grains every two hours, day and night. When quinine does not prove effective the condition of the gastro-intestinal tract and liver should be investigated. Solutions of quinine salts in the concentration usually employed for hypodermic injections produce, when mixed with blood serum, a coagulum which contains quinine in altered form. Quinine is precipitated at the site of the hypodermic and intramuscular injections as they are usually carried out. The amount of quinine excreted in the urine varies widely. Though urethrane, antipyrin, and sodium chloride increase the solubility of quinine hydrochloride in water, they do not increase its miscibility with ox-blood serum; and the new compounds produced thus are of doubtful therapeutic value. According to experiments on animals the absorbability of quinine by the various ways is in the following order of value: 1. Subcutaneous injection in extreme dilution, 1 in 150. 2. Oral administration during fasting. 3. Oral administration with, or immediately after, food. 4. Subcutaneous injection in the strengths generally used for that method, 1 in 2 and 1 in 8. For clinical reasons the subcutaneous injections in extreme dilutions obviously cannot be used. Oral administration gives prompt action, and subcutaneous injection is attended by dangers. Captain MacGilchrist also regards quinine salts as fundamentally unsuited for hypodermic use, and therefore considers this method should be entirely abandoned. In intravenous injections great dilution, at least 1 in 150, is necessary to avoid the dangers special to quinine. Seven grains of quinine bi-hydrochloride should be dissolved in from two to three pints of saline solution. This method is called for in cases of emergency. When there is a tendency to hæmoglobinuria, the quinine alkaloid, instead of one of its salts, should be used. Rectal injections Captain MacGilchrist considers irritating and of little value, and suppositories of quinine as useless in malaria.

This kind of close study of the effects of quinine and of its best methods of administration is very useful to tropical practitioners.

## CHOLERA IN KASHMIR.

DURING the latter part of 1910 cholera prevailed in Asiatic and European Russia, Turkey in Europe, Austria-Hungary, and elsewhere in pandemic form. Among the regions affected was Kashmir, a report on the epidemic in which State by Dr. Bhagat Ram Sawhney, chief medical officer, has lately reached us. The disease was conveyed into Kashmir from India through Jammu, and about the same time by the Jhelum Valley. Altogether 18,448 persons were attacked, of whom 49·97 per cent. died. There does not appear to have been any widespread infection through drinking-water in this epidemic, though, of course, along with infected milk, vegetables, and other food articles, it has been responsible for some part of the disease prevalence. The Jhelum river, which is a source of supply for a very large population, has undoubtedly been contaminated by the washing of infected clothing and domestic utensils, but in none of the centres of population along its banks did any outbreak occur differing in character or intensity from those in other places where the inhabitants did not use the river water. The inference is that cholera organisms perish when introduced into the water of rivers of large size or become so diffused as to be harmless. Human intercourse is considered to have played by far the chief part in the propagation of the disease, the almost entire absence of private latrine accommodation in Srinagar, the inadequacy of public accommodation for males, and the entire lack of any such provision for females being the chief sanitary defects. It is satisfactory to learn that, though introduced into the jail, where there was a population of 428 prisoners and guards, only 14 were attacked, though there is stated to have been considerable overcrowding. Dr. Sawhney points out that with the great increase of facilities for travelling from India to Kashmir there is increased danger of cholera introduction; in the last 80 years of the nineteenth century there were eight visitations of cholera; in the first decade of the present century there have already been three epidemics. The importance of the matter for the Kashmir State is increased by the fact that during every spring season there is now a great influx of European travellers and seekers after health, who are a source of considerable gain to the inhabitants, but who would be deterred from visiting the Happy Valley if it became notorious for cholera visitations. The proposal of the chief

medical officer is that a public health medical department be constituted for the State, so that modern scientific ideas and experience may be applied for the benefit of its inhabitants. In this suggestion he will be supported by all sanitarians; and we presume that the necessary funds could be provided without any difficulty by the State exchequer, aided by some small capitation tax on visitors.

## IS ASPARAGUS WHOLESOME?

WE are often asked whether asparagus is a good thing to eat, and the question may well be discussed now that the season of asparagus is come. Suspicion has no doubt been entertained in many minds as to the wholesomeness of asparagus on account of its producing a well-known peculiar odour in the renal excretion, although there are certain laymen who regard this effect as evidence of a kind of annual spring cleaning of the organism. This effect appears to be due to a stimulus given to protein metabolism and the formation of an organic sulphur body known as methyl-mercaptan, which is produced in the intestine during digestion, whence it is absorbed. There is no evidence showing that this stimulus does harm. On the contrary, asparagus when young and tender is very digestible even for invalids. Though not a powerful source of nutrition, there is very little doubt that its use leads to a true economy of food during digestion or, in other words, to a healthy assimilation of food principles, and more particularly the proteins. It is probable that the peculiar principle asparagin, which contains 21·2 per cent. of nitrogen, is responsible for this action, but asparagin exists also in other vegetables, notably the potato, though the amounts are less than is the case with asparagus. Purin bodies or uric acid producing substances are present in asparagus to an extent which cannot be neglected, and this fact has raised fears in the minds of the gouty and rheumatic. It is probable, however, that the alkaline salts in asparagus and in vegetable foods in general would compensate any uric acid forming tendency and keep the blood sufficiently alkaline to prevent the formation of insoluble urates, besides which asparagus appears to have a mildly stimulating action upon the kidneys. It is interesting to recall that asparagin has been recovered from asparagus and prescribed in doses of one grain three times daily for relieving dropsy associated with disease of the heart, and a syrup of asparagus is employed medicinally in France, while at Aix-les-Bains the eating of asparagus at one time formed part of the cure for rheumatic patients. So far, therefore, as the question has been investigated, the evidence obtained appears to give little support to the idea of asparagus being an objectionable article of the diet, and its estimable qualities of taste and flavour may continue to be enjoyed without offence to physiological exactions.

## MEDICAL MEN AND THEIR OWN DISEASES.

A LAY correspondent signing himself "Pater" writes us a letter discussing the address by Dr. A. C. F. Rabagliati at Bradford on March 26th on Spring Diseases, in which he makes one suggestion that is worthy of the consideration of the profession. He maintains that a person in perfect health cannot under any possible circumstances, be he ever so learned, thoroughly understand the working of diseases, and makes a special plea that eminent physicians and surgeons stricken with serious illness should "record their diseases" for the benefit of the profession and of humanity at large. There is something in this. We frequently have to point out that a patient's report of his own condition is of very little value. That is because he has not the necessary training to enable him to distinguish between the subjective and objective aspects of his condition, to estimate their relations one to the other, and to appreciate the mechanism of their underlying causes and the evolution of the disease. The physician, when being consulted upon another man's plight, can find direct evidence only in the objective signs; the subjective conditions he has to take mainly on what a lawyer would regard as hearsay evidence. To the patient, on the other hand, the subjective conditions assume an all-engrossing importance and he is ordinarily incapable of duly estimating the gravity or otherwise of the objective signs. The physician, however, being the patient, has the training which might sometimes enable him, under the guidance of a medical attendant, to grasp accurately both sides of his own case. In a few instances medical patients have left us careful and instructive coördinated studies of their own disease, but this is by no means generally the practice. We grant that it is not every medical man whose temperament is suited to the study of his own symptoms, while powers of observation of the physician, like those of any sick man, would not remain unimpaired upon a bed of sickness.

## HABITUAL ABORTION AND POTASSIUM CHLORATE.

IN THE LANCET of April 29th Mr. J. F. Jefferies reported two cases of repeated miscarriages in which he holds that he obtained a cure of the condition by the administration of potassium chlorate. The use of this drug in the treatment of habitual abortion is, of course, well-known, and it has from time to time been recommended for this purpose by many writers on midwifery. The possible causes of an abortion are so numerous that it is impossible in most cases to determine with certainty the predisposing or the exciting cause of the accident, and therefore to put down the cure of such a pathological state to the administration of any one drug is speculative. When we consider the mode of action of potassium chlorate, however, the matter becomes one of some interest, and the work which has been done in the elucidation of the correct pharmacology of this drug is an interesting example of the value of scientifically conducted experiments. The older writers on materia medica assumed that this salt parted with its oxygen in the tissues and became reduced to potassium chloride, and to this fact they attributed its undoubted therapeutic properties. Further investigations, however, led to the abandonment of this view, and the researches of Isambert, who took large doses of the drug himself, appeared to prove that it was excreted unchanged from the system. The beneficial effects which followed the administration of the drug were now explained according to the fancy of the writer, and its exact mode of action became very obscure. In this state the matter remained until further investigations were undertaken by Binz and others, who showed conclusively that while no doubt a large part of the salt is excreted unchanged from the system, yet quite an appreciable portion undergoes reduction, and in this way yields up a considerable volume of oxygen to the tissues. Binz showed that potassium chlorate, which contains some 39 per cent. of oxygen, was eliminated continuously by the salivary glands, the mucous membranes, and the kidneys, and he showed further that putrid albuminous bodies were capable of reducing it to potassium chloride, and so yielding nascent oxygen. The effect of oxygen in this state he regarded as in the nature of a gentle irritant or stimulant to the tissues of the body. Not only did the experiments of Binz and others prove that potassium chlorate gives off oxygen to the tissues, but the poisonous effects produced by large doses of the drug leave no doubt upon this point, and show conclusively that it promotes the oxidation of the tissues.

Do these facts give us any possible or probable explanation of the good effects of the drug in the treatment of habitual abortion, associated as it often is with unhealthy conditions of the uterine mucosa, the presence of menorrhagia, and no doubt in many women the presence also of putrefactive portions of blood-clot—a powerful agent in the reduction of this salt? It is difficult to see, however, if this is the mode of action of the drug, how it can be of any avail during pregnancy. We would suggest that its good effect may be produced in another manner—namely, in the antiseptic action of the drug upon the contents of the mouth, and so upon the contents of the stomach. The mouth of the pregnant woman is often the seat of many unhealthy processes, the teeth are very prone to decay, pyorrhœa is not uncommon, and fœtor of the breath associated with gastric disturbance and constipation is very frequently met with. May not the action of potassium chlorate, then, if we admit that it has any action in this condition, be explained in a two-fold manner—namely, by its effect in promoting oxidation of the tissues, and more especially of the mucous membrane, including that of the uterus, and by its further action in promoting buccal, and so gastric, antisepsis? In this way it may assist to prevent, or at any rate to limit, the production of the so-called toxæmia in pregnancy, which in many cases is merely one of the varying forms of intestinal intoxication.

## THE PROFESSORSHIP OF PHYSIOLOGY IN McGILL UNIVERSITY, MONTREAL.

Mr. N. H. Alcock, M.D. Dub., D.Sc. Lond., has been appointed to the chair of Physiology in McGill University, Montreal, Canada. Dr. Alcock holds at present the post of lecturer on physiology to the St. Mary's Hospital Medical School, and is also examiner in physiology to the Royal College of Physicians of London and to the National University of Ireland. He has published numerous papers on physiological subjects, and is the joint author of a text-book of experimental physiology. His work as Vice-Dean of St. Mary's Hospital Medical School in connexion with the Board of Education grants to the medical schools is well known. Dr. Alcock graduated in Arts at Trinity College, Dublin, with first-class honours in natural science (Senior Moderator) and gold medal. He obtained the degree of D.Sc. from the University of London by research in physiology, and was one of the original editors of *Science Progress*. We are sorry to lose Dr. Alcock from London, while we congratulate McGill University on securing him.

## THE INTERNATIONAL HYGIENE EXHIBITION, DRESDEN, 1911.

THE ceremony of the official opening of the International Hygiene Exhibition will be performed by the King of Saxony in Dresden at 11 A.M. to-day (Saturday, May 6th), and the pavilions of the majority of the participating foreign States will be declared open by His Majesty on Monday morning. The British pavilion will not be opened until the beginning of June. The War Office has delegated Major C. E. Pollock, R.A.M.C., to represent it at the official opening of the exhibition, and invitations have been received by the other departments of the Government from the Foreign Office in Berlin. Mr. H. W. Armit will represent the British Committee, of which he has acted as secretary. We are pleased to learn that, thanks to the generosity of some members of the public, the British Committee has been enabled to proceed with the work of organising a British Section at the Exhibition. As we have pointed out in our columns, the British Government has refused to undertake the organisation of a British Section, nor has the Government been able to support the work of the committee by making a grant, the attitude taken up in the matter being inexplicable to us. The British Committee is still labouring under the disadvantage of having to carry out its undertaking with a sum which is considerably smaller than that asked for, and is therefore seeking further subscriptions in order that it may be able to equip the unfinished pavilion in a creditable manner.

## MEDICAL MEN AND THE NOTIFICATION OF BIRTHS ACT, 1907.

Dr. G. F. Blacker appeared recently at the Marylebone police court in answer to a summons issued against him, at the instance of the Paddington borough council, for failing to give notice in writing of the birth of a child which he had attended. Dr. Blacker resides at 45, Wimpole-street, in the borough of Marylebone, and the birth in respect of which the summons was taken out took place at an address in Hyde Park-gardens, in the borough of Paddington. It was stated before the magistrate that the Paddington borough council adopted the Notification of Births Act, 1907, in May, 1908, and that a circular was then sent out informing medical men known to be practising in the borough. This circular, however, was not forwarded to Dr. Blacker as he was not known to practise in Paddington. Dr. Blacker asked the medical officer of health of the borough of Paddington in the witness-box why he (Dr. Blacker) had been selected for prosecution instead of the father of the child, and received the reply that it was because he had written that he declined to notify births in compliance with the Act. Dr. Blacker then asked whether the witness did not know that large numbers of medical men in London had the same objection to the Act as himself, and was answered to the effect that undoubtedly some had. Dr. Blacker, in addressing the magistrate, pointed out that he had received no notification of the adoption of the Act, but admitted that he had written to Dr. R. Dudfield, the medical officer of health of the borough, to the effect that he had no intention of complying with the Act in respect of births which he might attend in Paddington. He had adopted this course as a protest against the injustice of the Act in imposing the duty of notifying births upon the medical profession without providing any remuneration for the service so rendered to the public. Mr. Plowden imposed a fine of 10*s.* with costs. This suggests that the magistrate did not regard the offence as a heinous one, and Dr. Blacker deserves the thanks of his professional brethren for making public protest against an iniquitous and objectionable feature in an Act of Parliament passed for a useful and desirable purpose. General adoption of the course taken by Dr. Blacker would probably result before long in the alteration of the law against which he has so forcibly protested. Acquiescence in the situation recently created should not lead to further gratuitous service being exacted from the medical profession in the future.

DEVON AND CORNWALL SANATORIUM, DIDSWORTHY.—The annual meeting of the subscribers of the Devon and Cornwall Sanatorium was held on April 24th. The report stated that 156 cases had been admitted during the past 12 months, an increase of 23 over the previous year. Of these cases 29 were admitted in the early stage, and with the exception of one all left very much improved. Ninety-three cases were in the third stage of the disease, and over 50 per cent. were "very much improved" or "much improved." The committee referred to the satisfactory working of the Dispensary for Tuberculosis recently established at Plymouth in connexion with the sanatorium. The financial statement showed a deficit of £363 against the institution. Mr. Cecil Wills was elected honorary treasurer and Dr. R. Hogarth Clay the chairman, Dr. J. C. S. Rashleigh being appointed vice-chairman.

# GENERAL MEDICAL COUNCIL ELECTION, 1911.

## CANDIDATURE OF DR. J. A. MACDONALD.

Dr. J. A. Macdonald has issued the following address to practitioners as a candidate for the vacant seat on the General Medical Council as a Direct Representative for England:—

*To the Registered Medical Practitioners of England and Wales.*

LADIES AND GENTLEMEN,—At the request of friends who take an active interest in questions affecting the welfare of the medical profession, I have consented to be nominated as a candidate for the seat on the General Medical Council rendered vacant through the deeply lamented death of Dr. L. S. McManus. As my first duty in appearing before the electors, I wish to pay a personal tribute of respect to Dr. McManus's memory as one of the most loyal and earnest workers for the good of the profession to which he was so proud to belong, and as a man whose place it must be difficult for any successor to attempt to fill.

In offering myself for election to the General Medical Council, I recognise that my main duty to the electors is to place before them a short statement of my views upon those matters which it might fall within my province, as a Member of the Council, to deal.

The General Medical Council is primarily, as its full title indicates, a Council of Medical Education and Registration. Unfortunately, the Medical Acts have not defined as precisely as might be desired the functions of the Council on the one hand and of the Licensing Bodies on the other. In my view, pending the adoption of the one-portal system, the interest of the medical profession and of the community will best be served by the assertion and maintenance in every way of the authority of the General Medical Council as against individual medical corporations, where the two come into conflict.

So far as it can be achieved by the efforts of the General Medical Council, I am in favour of raising the standard of general education required prior to commencement of medical studies. A tendency has manifested itself to permit the extra time obtained by the medical student, through the extension of the period of medical study, to be absorbed by chemistry, physics, and biology. In my opinion the student should receive instruction in these subjects before he begins his medical course, so that when he enters a medical school he would be prepared to appreciate the application of the general principles of these preliminary sciences to the special subjects of physiology, pathology, and medicine. The extra time ought to be devoted, as was originally intended, to the practical study of the strictly professional subjects—medicine, surgery, and midwifery—which must engage the later part of the student's career.

I am in favour of a reform of the Medical Acts on the lines advocated by the British Medical Association—namely, the introduction of the one-portal system, a great increase in the direct representation of the medical profession on the General Medical Council, complete control by the General Medical Council over conditions of admission to medical study, the professional curriculum and the examinations up to the final examination, which last should be conducted by the Council itself, and the complete suppression of unqualified practice. I am of opinion that the influence of the General Medical Council should be directly exercised in favour of such reforms.

In the many matters awaiting legislative action, such as the amendment of the Midwives Act, legislation as to anæsthetics, and other matters upon which the General Medical Council has from time to time been called upon by the Government, through the Privy Council, to advise, I am of opinion that greater weight should be given by the General Medical Council to the opinion of the general body of the medical profession, and that it should make greater efforts than in the past to ascertain that opinion and to secure due consideration of it by the Government. Owing to the great numerical preponderance of representatives of the corporations and universities on the General Medical Council as at present constituted, its opinions are apt to represent those of the teachers in medical schools rather than those of the profession as a whole, a condition of matters which tends to diminish its influence with the public, with the Legislature, and with the Government of the day, as well as with the profession itself. Among the duties of the General Medical Council is that of advising the Privy Council as to the amendment of the Rules of the Central Midwives Board. In this matter also I shall if elected consider it my duty to urge that the Council should have due regard to the views of the general body of medical practitioners whose experience and position entitle them to due consideration in such an important subject.

Generally I am of opinion that in matters of medical education, and in matters of administration affecting the public health and medical law, there has been too great a tendency on the part of the majority of members of the General Medical Council to overlook the fact that the product of medical education and registration is the medical practitioner. The actual working of the system as seen in the day-to-day work of the medical profession has to a great extent been ignored. Thanks to the efforts of some of our Direct Representatives this tendency is being corrected, and it will be my object, if elected as a representative, to coöperate with the present representatives in their efforts to this end.

Through the exertions of the Direct Representatives inquiries have been set on foot in recent years into the prevalence of unqualified practice. Owing to the way in which the inquiry was carried out by the Government Departments in whose hands it was placed the report eventually published was very imperfect, and the official conclusions do not adequately represent the gravity of the public evils resulting from the prevalence of quackery and the sale of secret remedies. The subject calls for the immediate and earnest attention from the Government, and in securing that such attention shall be given much can be done by the General Medical Council. I am of opinion that every effort should be made by the Council to impress upon the Government the urgency of this matter.

I am, yours faithfully,

J. A. MACDONALD.

## WITHDRAWAL OF DR. S. C. LAWRENCE.

Dr. Sidney C. Lawrence, medical officer of health of Edmonton, whose candidature for the vacant seat on the General Medical Council we announced last week, informs us that he has decided to withdraw his assent to the several nominations which have been sent on his behalf to the office of the General Medical Council, and that he is accordingly no longer a candidate for election. He adds: "I desire to express my hearty thanks to the many friends who nominated me as 'a proper person to be elected to the General Medical Council.'"

# ROYAL COLLEGE OF PHYSICIANS OF LONDON.

A COMITIA was held on April 27th, Sir THOMAS BARLOW, Bart., the President, being in the chair.

The following candidates, having passed the required examination, were admitted Members of the College:—Laurence Ball, M.B. Lond., George Denne Franklin, M.B. Camb., L.R.C.P., Captain I.M.S.; George Alexander Gibson, M.D. Edin., F.R.C.P. Edin.; Thomas William James Johnson, M B New Zealand, L.R.C.P.; Frederic Percival Mackie, F.R.C S., L.R.C.P., Captain I.M.S.; Albert Ernest Naish, M.B. Camb., L.R.C.P.; Miss Dossibai Rustomji Cowasji Patell, L.R.C.P.; Alfred Ellington Stansfeld, M B. Camb.; and William Whiteman Carlton Topley, M.B. Camb., L.R.C.P.

Licences to practise physic were granted to 83 candidates who had passed the requisite examinations.

The following Members were elected Fellows of the College: Peverell Smythe Hichens, M.D. Oxon. (Northampton); Frederick Stephen Palmer, M.D. Durh.; Charles Gabriel Seligmann, M.D. Lond.; Herbert Williamson, M.B. Camb.; John Alexander Nixon, M.B. Camb. (Clifton, Bristol); Horatio George Adamson, M.D. Lond.; Eric Danvers Macnamara, M.D. Camb.; and Harold Theodore Thompson, M.D. Camb.

The following registered medical practitioners, not Members of the College, nominated by the Council as especially

eligible, were also elected Fellows of the College:—Edward Granville Browne, M.B. Camb., F.B.A.; and Sir David Bruce, M.B. Edin., C.B., F.R.S.

The following communications were received: 1. From the secretary of the Royal College of Surgeons of England, reporting proceedings of the Council of the College on Feb. 9th, March 9th, and April 6th. 2. From the Home Office (dated March 2nd), *re* the labelling of patent medicines. The matter was referred to the Censors' Board, but it was resolved that it should be recommended to the Home Secretary that it should be compulsory for the ingredients of all patent medicines to be placed on the bottle. 3. From the secretary of the National Association for the Prevention of Consumption, *re* an International Tuberculosis Congress at Rome in September next. The President was requested to nominate delegates to represent the College. 4. From the Master of the Apothecaries' Society, intimating that the Society will apply for power to issue diplomas in Public Health and in Tropical Medicine, and expressing the hope that the College would not oppose this application. It was resolved that no opposition should be offered at present. 5. From the Royal Statistical Society, *re* a "definition of still births." It was left to the President to nominate a small committee to consider the matter.

Dr. Norman Moore was re-elected the representative of the College on the General Medical Council, Dr. Frederick Taylor was re-elected the representative of the College on the Senate of the University of London, and Dr. F. W. Andrewes was re-elected the representative on the Council of the Lister Institute of Preventive Medicine.

Dr. F. E. BATTEN proposed, and Dr. E. FARQUHAR BUZZARD seconded, the following resolution, which was adopted:—

That in view of the infectivity of acute poliomyelitis and polioencephalitis, its annual occurrence in London, and the crippling effects of the disease upon children and others, the College do recommend to the London County Council that poliomyelitis and polioencephalitis be included among the notifiable diseases in order to diminish and, if possible, eliminate its incidence on the population.

After some further formal business the PRESIDENT dissolved the Comitia.

# VITAL STATISTICS.

## HEALTH OF ENGLISH TOWNS.

In 77 of the largest English towns 8389 births and 4695 deaths were registered during the week ending April 29th. The annual rate of mortality in these towns, which had been equal to 15·9 and 15·4 per 1000 in the two preceding weeks, further declined to 14·3 in the week under notice. During the first four weeks of the current quarter the annual rate in these towns averaged 15·2 per 1000. In London during the same period the recorded annual rate did not exceed 14·7 per 1000. The annual death-rates last week in the 77 large towns ranged from 7·6 in Grimsby, 7·7 in Newport (Mon.), 8·2 in Coventry, and 8·4 in Smethwick, to 21·0 in Rhondda, 21·5 in Swansea, 21·8 in Stoke-upon-Trent, and 22·0 in Tynemouth. The 4695 deaths from all causes in the 77 towns last week showed a further decline of 365 from the numbers returned in the two preceding weeks, and included 448 which were referred to the principal epidemic diseases, against numbers steadily declining from 702 to 538 in the seven preceding weeks; of these 448 deaths, 223 resulted from measles, 118 from whooping-cough, 53 from infantile diarrhœa, 31 from diphtheria, 14 from scarlet fever, and 9 from enteric fever, but not one from small-pox. The mean annual death-rate from these epidemic diseases in the 77 towns was equal to 1·4 per 1000, and was lower than in any week since January last. The fatal cases of measles in the 77 towns, which had steadily declined in the seven preceding weeks from 474 to 268, further fell last week to 223; the highest annual death-rates from this disease among these towns last week were 1·9 in Yarmouth, 2·3 in Tottenham, 2·5 in West Ham, and 4·1 in Rhondda. The 118 deaths from whooping-cough showed a decline of 16 from the number in the previous week, and caused the highest death-rates of 1·4 in Burnley, 1·9 in Blackburn, and 2·4 in Middlesbrough. The 53 deaths, under two years of age, attributed to diarrhœa were fewer by 10 than those in the previous week, and included 16 in London, 5 in Liverpool, and 4 in Birmingham. The deaths referred to diphtheria, which had been 50 and 44 in the two previous weeks, declined to 31 last week, and were fewer than in any previous week of this year; they included 11 in London and its suburban districts, 3 in Manchester, and 2 both in Liverpool and in Birmingham. The 14 fatal cases of scarlet fever corresponded with the low number in the previous week, and included 5 in Liverpool and 2 both in London and Stockton-on-Tees. The deaths referred to enteric fever, which had been 18 and 15 in the two preceding weeks, further fell to 9 last week, and were fewer than in any previous week of this year. The number of scarlet fever patients under treatment in the metropolitan asylums and the London Fever Hospital, which had been 982 and 995 on the two preceding Saturdays, had further increased to 1037 at the end of last week; 141 new cases of this disease were admitted to these hospitals during last week, against 125 and 155 in the two preceding weeks. These hospitals also contained 829 cases of measles, 307 of whooping-cough, 22 of enteric fever, and 9 of small-pox on Saturday last. The 1280 deaths from all causes in London last week showed a decline of 208 from the number in the previous week, and included 268 which were referred to diseases of the respiratory system, against 279 and 323 in the two previous weeks; 12 deaths were directly referred to influenza, showing a decline of 7 from the number in the previous week. In the 77 towns, 167 deaths were attributed to different forms of violence, fewer by 31 than those in the previous week; and 361 inquest cases were registered. The causes of 37, or 0·8 per cent., of the deaths registered in the 77 towns during the week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Leeds, Bristol, West Ham, Bradford, Leicester, Salford, and in 50 other smaller towns; the 37 uncertified causes of death in the 77 towns last week included 6 in Liverpool, 5 in Birmingham, 4 in Gateshead, and 3 in Stoke-upon-Trent.

## HEALTH OF SCOTCH TOWNS.

In Glasgow 487 births and 281 deaths were registered during the week ending April 29th; the deaths slightly exceeded the number in the previous week, but were 10 below the average number in the first three weeks of the current quarter. As the results of the recent Census appear to show that the population of this city has recently been largely over-estimated, it must be presumed that the birth-rates and death-rates therein have both been considerably understated in recent returns. The 281 deaths in Glasgow last week from all causes included 40 which were referred to the principal epidemic diseases, against 47 and 41 in the two preceding weeks; of these 40 deaths 24 resulted from whooping-cough, 6 from measles, 5 from infantile diarrhœa, 4 from diphtheria, and 1 from enteric fever, but no fatal case of scarlet fever or small-pox was registered. The fatal cases of whooping-cough, which had been 27 and 28 in the two previous weeks, declined to 24 last week, but the 6 deaths from measles exceeded the number in the previous week by 3; the number of deaths from infantile diarrhœa and from diphtheria differed but slightly from those in the previous week. The 281 deaths in the city included 96, or 34 per cent., which were recorded in public institutions. In Edinburgh 130 births and 121 deaths were registered during last week, the deaths showing an increase of 5 upon the number in the previous week. It appears that the official estimate of the recent population of this city, as well as of Glasgow, has considerably exceeded the number enumerated at the recent Census, which implies that the recently published rates of births and of deaths have been understated. The 121 deaths registered in Edinburgh last week from all causes included 7 which were referred to the principal epidemic diseases, against 14 in the previous week; 3 resulted from measles, 3 from whooping-cough, and 1 from diphtheria, but not one from scarlet fever, infantile diarrhœa, enteric fever, or small-pox. The fatal cases of whooping-cough were fewer by 5 than those in the previous week, but those of measles showed a slight increase. The 28 deaths of infants under one year of age exceeded the numbers in any recent week. The 121 deaths from all causes included 40, or 33 per cent., which occurred in public institutions, and the causes of 5, or 4·1 per cent., of the registered deaths were uncertified.

### HEALTH OF IRISH TOWNS.

In 22 town districts of Ireland, having an estimated population of 1,163,596 persons, 687 births and 465 deaths were registered during the week ending April 29th. The annual rate of mortality in these towns, which had been equal to 20·3 and 22·0 per 1000 in the two preceding weeks, declined again to 20·8 in the week under notice. During the first four weeks of the current quarter the annual death-rate in these towns averaged 21·4 per 1000; the mean rate during the same period in the 77 English towns did not exceed 15·2 per 1000. The annual death-rate during the week under notice in the Irish towns was equal to 22·4 in Dublin (against 13·6 in London), 20·9 in Belfast, 24·0 in Cork, 14·3 in Londonderry, 10·9 in Limerick, and 13·6 in Waterford; in the 16 smallest of these Irish towns the mean annual death-rate during the week was equal to 20·5 per 1000. The 465 deaths from all causes in the 22 towns during the week showed a decline of 25 from the number in the previous week, and included 28 which were referred to the principal epidemic diseases, against 36 and 30 in the two previous weeks; these 28 deaths were equal to an annual rate of 1·1 per 1000, which was 0·3 below the mean rate from the same diseases in the 77 English towns. Of these 28 deaths from the principal epidemic diseases in the Irish towns, 10 resulted from diarrhœa, 8 from whooping-cough, 5 from measles, 4 from diphtheria, and 1 from enteric fever, but not one either from scarlet fever or from small-pox. The 10 deaths attributed to diarrhœa included 8 of infants under two years of age; 5 occurred in Dublin and 2 in Galway. The 8 fatal cases of whooping-cough exceeded those in the previous week by 2, and included 3 in Londonderry and 2 both in Dublin and in Cork. All the 5 deaths from measles were recorded in Dublin; and of the 4 fatal cases of diphtheria 2 occurred in Dundalk and 1 each in Dublin and Limerick. The death from enteric fever was registered in Belfast. The deaths in the 22 towns referred to diseases of the respiratory system, which had been 120 and 136 in the two previous weeks, declined last week to 87. Of the 465 deaths from all causes, 144, or 31 per cent., were recorded in public institutions. The causes of 25, or 5·4 per cent., of the deaths in the 22 towns were not certified either by a registered medical practitioner or by a coroner after inquest; the proportion of uncertified causes of death in the week under notice did not exceed 0·8 per cent. in the 77 largest English towns.

## THE SERVICES.

### ROYAL ARMY MEDICAL CORPS.

Colonel T. J. R. Lucas, principal medical officer of the Jubbulpore and Jhansi Brigades, has been granted six months' leave of absence home from India. Lieutenant-Colonel W. W. Pike, from the Military Hospital at Tidworth Park, Salisbury Plain, has joined for duty in Egypt. Lieutenant-Colonel T. Daly, from Dalhousie, has been appointed to command the Military Hospital at Peshawar. Lieutenant-Colonel J. Will has been transferred from Kinsale for duty at Richmond, Yorks. Major T. McCulloch, from Mandalay, has been selected to take charge of the Military Hospital at Calcutta. Major G. T. Rawnsley, from Aldershot, has taken up duty as Staff Officer to the Administrative Medical Officer of the East Lancashire Division at Manchester. Major M. P. C. Holt, D.S.O., specialist in advanced operative surgery at Ambala, has been appointed Honorary Surgeon to His Excellency the Viceroy and Governor-General of India, in succession to Brevet Colonel R. S. F. Henderson, appointed Honorary Physician to His Majesty the King. On arrival from England, Major J. McD. McCarthy has been posted for duty to the Eighth (Lucknow) Division. Major L. E. L. Parker, sanitary officer of the Sixth (Poona) Division, has been granted eight months' leave of absence home from India. Major H. G. F. Stallard has been transferred from Delhi Cantonment to the Station Hospital at Roorkee. Major G. S. Crawford, on return from a tour of service at Malta, has been appointed for duty in the Dublin District. Major C. T. Samman has been transferred from the Eighth (Lucknow) Division to the Fifth (Mhow) Division. Captain N. Low, on completion of a tour of service in India, has been ordered to join for duty in Ireland in the Belfast District. Captain C. W. S. Whitestone has been granted six months' general leave of absence home from India. Captain F. W. Lambelle, on arrival in India, has been appointed Specialist in Advanced Operative Surgery to the Fifth (Mhow) Division. Captain W. McConaghy has been transferred from the Military Hospital at Tidworth Park to Birmingham. Captain J. M. B. Rahilly, on arrival from Cairo, has been posted to the Eastern Command. Captain A. A. Meaden, on completion of a tour of service in India, has been ordered to join the Irish Command and on arrival will be posted to the Cork District for duty. Captain J. du P. Langrishe, from Kirkee, has joined for duty at the Station Hospital, Poona. The following Captains have been directed to hold themselves in readiness for service abroad during the coming trooping season: A. R. Greenwood, Specialist in Advanced Operative Surgery at Aldershot; A. D. Jameson, Specialist in Dermatology and Venereal Diseases at Aldershot; P. C. Douglass, in charge of the Military Hospital at Weedon; C. E. Fleming; F. A. Stephens, Adjutant of the Royal Army Medical Corps School of Instruction at Birmingham; R. F. M. Fawcett; J. L. Jones; E. S. Worthington, M.V.O.; H. A. Bransbury, Specialist in Dermatology and Venereal Diseases at Woolwich; M. W. Falkner, Specialist in Advanced Operative Surgery at the Curragh Camp; R. N. Woodley, in charge of the Military Families Hospital at Bulford Camp. Lieutenant H. H. Blake has been transferred from the Eighth (Lucknow) Division to the First (Peshawar) Division.

### INDIAN MEDICAL SERVICE.

The King has approved of the promotion of Lieutenant-Colonel Donald St. John Grant to the rank of Colonel (dated Jan. 1st, 1911). Colonel Grant's tenure of appointment will reckon from March 14th, 1911.

The King has also approved of the retirement of the undermentioned officers: Colonel Charles Henry Beatson (dated March 27th, 1911), Colonel William Adair Quayle (dated April 30th, 1911), Lieutenant-Colonel Henry Peers Dimmock (dated April 15th, 1911), Lieutenant-Colonel Manekshaw Jamshedji Kelâwâlâ (dated April 16th, 1911).

Colonel A. M. Crofts, C.I.E., has been selected to succeed Surgeon-General H. Hamilton, C.B., on the latter's retirement from the service. Brevet-Colonel H. F. Cleveland, secretary to the Principal Medical Officer, His Majesty's Forces in India, has been appointed Principal Medical Officer of the Aden Brigade. Lieutenant-Colonel H. Hendley has been confirmed as Administrative Medical Officer under the Home Department of the Government of India. Lieutenant-Colonel J. Morwood, civil surgeon of Shahjahanpur, has been granted leave of absence in India for six months. The services of Lieutenant-Colonel C. H. Bedford have been placed at the disposal of the Home Department of the Government of India. Lieutenant-Colonel D. H. McD. Graves has arrived home on leave of absence from India. Major A. Fenton has been transferred from Mandalay to act as Civil Surgeon at Rangoon during the absence on leave of Captain J. Good. Major C. H. Bowle-Evans has been selected by the Foreign Department of the Government of India as Agency Surgeon, Khyber. Major C. Dykes, on completion of special duty in connexion with plague prevention, has been appointed to officiate as Civil Surgeon at Ghazipur. Major J. L. Macrae, Bengal Presidency, has arrived home on leave of absence from India. Captain F. W. Sumner, officiating civil surgeon at Bijnor, has taken up duty as civil surgeon at Shahjahanpur during the absence on leave of Lieutenant-Colonel J. Morwood. Captain C. G. Seymour has been appointed Specialist in the Prevention of Disease and posted to take charge of the Brigade Bacteriological Research Laboratory at Dehra Dun. The services of Captain W. L. Harnett have been placed at the disposal of the Government of India for duty in Bengal and Assam.

### THE SERIOUS ALLEGATIONS CONCERNING PARKHURST MILITARY HOSPITAL.

Pending the result of official inquiries into the allegations of overwork at this hospital, judgment in the matter must be suspended, but it is satisfactory to know that the War Office has realised the seriousness of the charges made. After the inquest on Sergeant Stokes, R.A.M.C., the dispenser who poisoned himself, several Members of the House of Commons asked questions on the subject, and on April 27th Mr. Acland, in the House of Commons, on

behalf of the Under Secretary of State for War, said that there was a suicide at Parkhurst on August 29th, 1910, a case of insanity, but the suicide was not apparently due to overwork. The hospital was equipped for 25 beds with a *personnel* of one officer and eight non-commissioned officers and men. The average constantly sick for the past six months was from nine to ten. During March the number rose to 15. No demand for an increase of *personnel* for this station had reached the War Office. Quite apart from the alleged unsatisfactory conditions of understaffing, the apparent ignorance of the War Office of the application for extra assistance which the commanding officer says he made will have to be thoroughly investigated. In the meantime the staff, we are informed, has been augmented.

A FATAL ACCIDENT TO A TERRITORIAL MEDICAL OFFICER.

While riding over a railway bridge during a recent route march the hired horse of Lieutenant G. H. Warren, R.A.M.C. (T.F.), bolted on hearing the noise of escaping steam from a locomotive. Lieutenant Warren was thrown and sustained a fracture of the skull. He was taken to the Royal Military Hospital, Plymouth, where he died three hours after the accident.

DISINFECTION IN THE FRENCH NAVY.

A recently issued order on disinfection in the French navy is published in the *Archives de Médecine et Pharmacie Navales* for March. A disinfecting department is to be set up in the grounds of the naval hospital at each of the great naval ports, and is to be under the direction of the medical officer in charge of the bacteriological laboratory, who will have with him for this work three sick-berth stewards and four assistants, and additional men as may be thought necessary by the principal medical officer. The disinfecting station is to be surrounded by a wall, and divided by another wall into two sections—one the infected, the other the disinfected section—each with its own gate and its own separate staff. On the infected side will be a shed for the ambulances and for the carts which bring in infected matters, the boiler-room, the workshop for the necessary artificers, a small destructor, cloak-room for its own staff, baths, dressing-rooms, and water-closets, tanks for soaking and disinfecting soiled linen, and the steam and formalin disinfectors. There is to be no communication between the sections, and the bags and hampers in which the clothes for disinfection arrive are to be passed through the disinfectors to the disinfected side where they are stored. The disinfected side will be somewhat similar, but only the extreme ends of the disinfectors will project into it. There will be cloak-room, baths, and lavatory accommodation for its staff, an office for examining and checking the disinfected matters before they are sent back, and for noting any damages that may have occurred. Stores will be kept here for the portable disinfector, sprayer, and other apparatus, and for disinfectants. The destructor will deal with rubbish, with dead animals, and other laboratory dejecta, and especially with the combustible sputum containers which are recommended. Lessons and practical demonstrations in disinfection are to be given to the sick-berth staff when under instruction; they are to be warned of the poisonous nature of the disinfectants used, and the medical officer in charge is responsible for any accidents that may occur. Each man of the disinfecting staff is supplied with a sterilised outfit, cap, blouse, trousers, boots, and gloves. All offices are to be disinfected once a year at convenient times, but any office in which a tuberculous employee has been working will be thoroughly disinfected and cleaned at once, the completeness of the disinfection to be tested by laboratory controls. Workshops are to be periodically vacuum-cleaned and disinfected. Ships are to be disinfected when required, during their general refit in the dockyard if this can be arranged, and no ship is to be recommissioned without a general disinfection. The explosives will be removed, exposed metal surfaces thickly coated with vaseline, the men sent to barracks on land, and the ship filled with 10 per cent. sulphurous acid gas, which must be well humidified, ventilation being re-established after 12 hours. The ship is allowed to air itself for several days, and is then further disinfected with formalin: 7½ c.c. of 40 per cent. formalin solution and 32½ c.c. water are vaporised into each compartment for each cubic metre of space and left there for seven hours before again opening it up. Or formalin spray may be employed, 12 c.c. of the 40 per cent. solution to each cubic metre but diluted with 488 c.c. of water. The bedding is to be sent to the disinfector, and it may be added that all hammock bedding is to be put through a disinfector twice a year. The bilges are to be disinfected with chloride of lime (1 in 1212 of water and filtered). If a ship has been sunk and refloated, 50 per cent. sulphate of iron solution is to be used as a deodorant. Officers' cabins are to be disinfected and cleaned, and the bedding disinfected on every change of occupancy. The water-closets are disinfected habitually by electrolysed sea water (as used by Mr. F. W. Alexander, medical officer of health of Poplar, and described in THE LANCET of March 24th, 1906). Crude paraffin is used in latrines and urinals ashore for destroying flies and larvæ. The steam disinfectors now on board ships are to be replaced, as the ships come in for refit, by formalin disinfectors, closed tanks in which 50 c.c. of the 40 per cent. solution are used per cubic metre. These are heated by resistance coils fitted inside them and disinfection is complete in two hours. The cleaning of water tanks is to be supervised by a medical officer, who will examine the men to see they have nothing the matter with them; they will then have a bath and put on clean suits and aseptic sabots before entering the tanks to chip and scrape them. After all solid matters have been removed the tanks will be flamed round inside with a painter's lamp or be steamed, and then they will be lined with cement. The supply system of pipes will be washed out with a solution of permanganate of potassium. Voice pipes are to be sterilised by steam. The official order on disinfection is long and fully detailed. If it is thoroughly observed in the spirit as well as the letter much good should follow.

# Correspondence.

"Audi alteram partem."

## MARKHAM *v.* ABRAHAMS.

*To the Editor of* THE LANCET.

SIR,—Conflicting evidence in this case was given on the following points: (*a*) frequency of conical cornea; (*b*) prognosis; (*c*) treatment; and (*d*) could the astigmatism have increased + 4 D. in seven months?

As regards frequency Mr. Harman's figures were 1–1500, mine 1–1000. Mr. Ettles at the first trial 1–2000, at the second 1–2000 to 1–5000. Mr. Hartridge 1–10,000, Mr. Stephenson 1–10,000. Mr. Hartridge had seen hundreds of cases of conical cornea. Mr. Stephenson was unable to quote "personal figures." No English statistics were quoted. The foreign ones advanced by the defence were 1–10,000, 1–25,000, and 1–35,000. On my asking to see the book it transpired that some of the foreign authorities allude to "true" conical cornea—i.e., to cases diagnosed too late for aught but operative treatment. Why were home statistics ignored? Let us assume the disease occurs 1–25,000 cases, then conical cornea is a *rara avis* in any man's practice, and no one can speak with authority on the subject. Since the first trial I have seen two new cases in the ordinary course of practice!

*Prognosis.*—Mr. Harman and Mr. Wray regarded the prognosis as exceedingly grave on the following grounds: (*a*) the patient has a sharply defined cone in each eye; (*b*) the astigmatism is + 7·5 D. in each eye; and (*c*) thinning of the cornea will now contribute to the rate of progress and its amount. Both thought she would soon lose the sight of the right eye and sooner or later the sight in the left eye for all practical purposes. Mr. Hartridge considered she stands a very fair chance of retaining her sight. Mr. Stephenson thought "there is at present no ground for saying the patient is nearly blind" (plaintiff's witnesses had stated V. 6/12, and that under suitable treatment she might retain her sight for distance in the good eye). Mr. Ettles: "There is no ground for supposing she is likely to become totally blind." At the second trial the good eye remained about the same, but the astigmatism in the right eye was about + 12 and the vision with that glass oscillated between 6/18 and 6/60. The former momentarily.

*Treatment.*—The plaintiff's witnesses considered suitable

glasses and cessation of all work at reading distance imperative. Continuous study they thought very dangerous in conical cornea, and both had notes of cases in which the progress of the disease had been held in check for many years. Mr. Hartridge was of opinion that no glasses would stop the disease "nor had it in his judgment been proved that study would assist the development of the disease." Counsel asked: "A good deal has been made about the plaintiff going up for examination (B.Sc.) and close reading. Would this intensify the disease or not?" The reply was: "I should not advise it as a counsel of perfection." Mr. Stephenson thought, "We have no medical evidence to show that the use of the cylinders (+ 3 D., ordered by the optician) under these circumstances would make conical cornea worse." In the second trial, however, he admitted, under cross-examination, that reading was injurious if continued many hours (occasionally she read ten hours a day). Mr. Ettles stated in reply to "What is the highest degree of astigmatism that is consistent with sight?": "There is no limit. It is entirely a question of whether the workman can make the glass. He had seen 50 cases of conical cornea and used the special conical cornea glasses in 12."

Could the astigmatism have increased + 4 D. in seven months? The witnesses for the defence thought that as the astigmation was + 3 in 1907 according to the optician, and as he did not diagnose the conus, it was in the highest degree improbable he would prevent the patient screwing up the lids in the interests of good vision. How important this was was clear from the fact that she could see 6/12 with or *without* a glass. They were also of the opinion that the + 3 D. (optician's result) in 1909 was wrong. They thought an increase of + 4 D. in seven months in early conical cornea exceedingly unlikely, but quite possible later when thinning had taken place. Mr. Stephenson had seen an increase of astigmatism from 3-5 D. in a fortnight. Mr. Hartridge, assuming the optician's test of 1907 and 1909 to have been correct, considered it quite possible that the astigmatism might have increased during the following seven months to the amount found in November, 1909 (+ 7). There were also minor points on which there were differences of opinion, but none who were engaged in the case will ever forget the truly marvellous way in which the Lord Chief Justice dealt with the intricacies of the case, nor will they forget his kindly and sympathetic attitude to those whose misfortune it was to be involved in the trial.

I am, Sir, yours faithfully,

April 25th, 1911. CHAS. WRAY, F.R.C.S. Eng.

*** In the current number of the *Ophthalmoscope* Mr. Sydney Stephenson reviews the whole subject of conical cornea in an interesting manner and at some length, supplying thereby chapter and verse for the evidence which he tendered.—ED. L.

## THE WATER-SUPPLY OF THE BARRACKS AND CANTONMENTS OF PRETORIA.

*To the Editor of* THE LANCET.

SIR,—I notice in THE LANCET of March 11th, under the heading "The Health of the Army in 1909," certain remarks regarding the water-supply of the barracks and cantonments at Pretoria which appear to indicate some misapprehension of the actual position.

The water supplied to the military is the same as is used in the municipality of Pretoria. Personally, I consider that it is of a very high degree of purity. It is obtained from deep springs in the dolomite. During the last six or more years regular weekly analyses have been made by the Transvaal Government bacteriologists of samples obtained from the intakes from which both town and military supplies are obtained. Out of 90 such samples taken in the year July 1st, 1909, to June 30th, 1910, only 1 showed B. coli in 1 c.c. Similar results have been obtained in previous years. There are other facts, also, which tell very strongly against the view that the prevalence of typhoid fever in the Pretoria contonments is due to contamination of the water-supply—e.g., the occasional samples which show B. coli as present in 10 c.c., which I may say are exceedingly few, occur much more often in the winter than in the summer months—i.e., during the time of the year when typhoid fever is practically absent.

Again, although town and cantonments have the same water-supply, the months of greatest prevalence of typhoid fever at the cantonments, which are some six miles from the town, are not the months of greatest prevalence in the town. I have noted this fact in various years, and it appears difficult to explain it if the common water-supply were really the infecting source.

I do not propose to offer any opinion as to the cause for the greater prevalence of typhoid fever at the Pretoria cantonments than at other cantonments in South Africa, but certainly do not consider that the reason is to be found in the inferiority of the water-supply.

I am, Sir, yours faithfully,

J. J. BOYD, M.D. Glasg., D.P.H. Camb.,
Medical Officer of Health, Pretoria Municipality.

Pretoria, April 8th, 1911.

## GENERAL MEDICAL COUNCIL ELECTION, 1911.

*To the Editor of* THE LANCET.

SIR,—At the meeting of the English Branch Council yesterday the following dates were fixed in connexion with the election of a Direct Representative to the Council:—

| | |
|---|---|
| Issue of voting papers (posting May 4th) | May 5th. |
| Last day for return ... ... ... ... ... | ,, 13th. |
| Counting of votes ... ... ... ... ... | ,, 15–16th. |
| Meeting of Branch Council followed by declaration of poll ... ... ... ... | ,, 18th. |

I am, Sir, yours faithfully,

April 29th, 1911. H. E. ALLEN, Registrar.

## THE OLIVER-SHARPEY LECTURES ON HEART FAILURE.

*To the Editor of* THE LANCET.

SIR,—I entirely agree with Dr. Alexander Morison in his criticism of Dr. James Mackenzie's Oliver-Sharpey lectures. There is much in Dr. Mackenzie's lectures which is common knowledge to all medical men who have given special attention to the study of diseases of the heart and circulation. With this part of the lectures I have no quarrel, but he certainly becomes original in theory and almost Gilbertian in style, when he enunciates his belief that a heart with defective valves and irregular action is as satisfactory as, if not more so than, a sound organ. It is hardly necessary to say that I do not agree with this very original theory. Dr. Mackenzie's adverse remarks upon the part played by mineral-bath treatment in cardiac disease seem to indicate an entire misconception, on his part, of their therapeutic action, in that he advocates rest in heart disease, yet fails to realise that the relief given to an overworked heart by the dilatation of the cutaneous capillaries produced by immersion in a mineral bath of the right kind is the best method of producing cardiac rest that we have at our command. I will not trespass upon your space to give examples of the benefit of mineral-bath treatment upon cases of cardiac disease, because such examples are of every-day occurrence to those who have a working experience of that method of treatment.—I am, Sir, yours faithfully,

LESLIE THORNE THORNE.

Queen Anne-street, W., May 1st, 1911.

## A NEW FORM OF CHEST-PIECE FOR THE BINAURAL STETHOSCOPE.

*To the Editor of* THE LANCET.

SIR,—In your issue of April 22nd you publish particulars of an undoubted coincidental invention of a chest-piece by Dr. H. A. Haig. His chest-piece is identical with one I invented and have used for years. You published a description of the same in THE LANCET. Dr. Haig's description of the chest-piece is the only difference, otherwise the instrument is the one invented and described by me and made by Mr. H. L. Trudgett, 25, Darnley-road, London, N.E.

I am, Sir, yours faithfully,

F. W. FORBES-ROSS, M.D. Edin., F.R.C.S. Eng.

Harley-street, W., April 22nd, 1911.

# MONACO'S MODEL HOSPITAL.

(FROM OUR SPECIAL SANITARY COMMISSIONER.)

Monaco, April, 1911.

*The Popularity of Monaco.*

THE extraordinary popularity of Monaco and Monte Carlo as pleasure, health, and winter resorts has created administrative problems such as are not to be found elsewhere in Europe. In 1873 the principality had 3443 inhabitants and the railway statistics show that 186,267 persons booked for Monaco during the course of that year. Some of these travellers remained for only a few hours. Many came from Nice, Mentone, or other places close at hand merely for the purpose of indulging their gambling propensities. Others, on the contrary, came to reside some weeks, months, or perhaps for the whole season. They sought to enjoy the beautiful scenery and the beneficent climate. Some never went near the roulette tables, though it is more than probable that the majority could scarce forbear paying an occasional visit to the magnificent playing rooms. In any case the Casino prospered, the revenue increased, and the number of visitors and residents augmented beyond all possible prevision. The fixed population is now at least 20,000, and the number of visitors coming in the course of a year exceeds a million and a half. However brief the sojourn of the majority may be, they are subject to the usual human afflictions; casualties and sudden illnesses must take place among these visitors, and the medical and surgical attention needed by such an enormous crowd is a serious matter. At the Casino a medical service has been organised; there is a surgery, with a medical practitioner always in attendance. It may well be imagined, however, that the hospital accommodation originally created for a small population of some 3000 residents soon became absolutely insufficient for this ever-increasing flood of foreign visitors. The reigning sovereign, H.S.H. Prince Albert I., as an eminent man of science, readily understood the gravity of the situation and determined that no pains or expense should be spared to remedy the situation.

A commission was appointed, with the late Dr. L. Colignon as its president, to visit and report upon the best modern hospitals. The only instruction given by the Prince was that they should prepare a scheme for "a model hospital." This was done, and then came the great difficulty, due to the enormous development of building within the narrow limits of the principality, of finding a suitable site. This could only be done by taking a portion of the mountain side, and blasting out the rock to create artificially a level terrace of sufficient length and width to hold the proposed hospital. But the mountain side was cultivated by the owners of the land: they grew olive trees and built small cottages. The cost of purchasing this land varied from 15 to 20 francs the square metre. In round figures the cost of the land, the levelling of the land, and of building the hospital amounted to £80,000, and this does not include furniture, fittings, surgical instruments, &c. The hospital was inaugurated by H.S.H. Prince Albert I., accompanied by all the members of the International Association of the Medical Press then in conference, assembled at Monaco in the spring of 1902. Now sufficient time has elapsed to be able to speak of the results achieved; and, therefore, having participated in the inauguration, it was with special interest that I looked forward to revisiting the hospital. Before doing so, however, I enjoyed the honour and privilege of a special audience with H.S.H. Prince Albert.

*Audience with the Prince.*

It was within the picturesque and ancient palace of the House of Grimaldi, where there is now so much evidence of modern scientific research, that Prince Albert received me, and among many other questions discussed the present situation of the hospital. Since the inauguration important additions had been made, and the maternity enlarged. On this matter the Prince spoke with emphasis. The object was to save the children, but why take so much trouble on behalf of a child about to be born if children born two or three years previously were to be neglected and exposed to serious risks? If a woman was so poor as to be compelled to come to the maternity, and if she was already the mother of other as yet very young children, in all probability these latter would have no one to look after them properly while their mother was at the hospital. The Prince was so convinced that this must occasionally occur and cause much suffering among children deprived of their mother's care that he ordered inquiries to be made. If it was found there was no efficient person left in charge of the children and that they were likely to suffer, then these children must follow their mother to the hospital. On the upper floor of the maternity pavilion there is room enough to lodge several children, while in the daytime there is ample space in the hospital gardens for the children to play about and attendants enough to see that they do not get into mischief. Thus, and in response to the initiative and orders given by the Prince, this innovation has been realised. A mother may bring her children with her if they cannot be properly cared for while she is away from her home. Fortunately, such extreme poverty and misery as this implies is comparatively rare in the prosperous principality. On inquiry at the hospital itself I did not find that many mothers had availed themselves of the privilege. Nevertheless, the idea testifies to the humane feelings of the Prince.

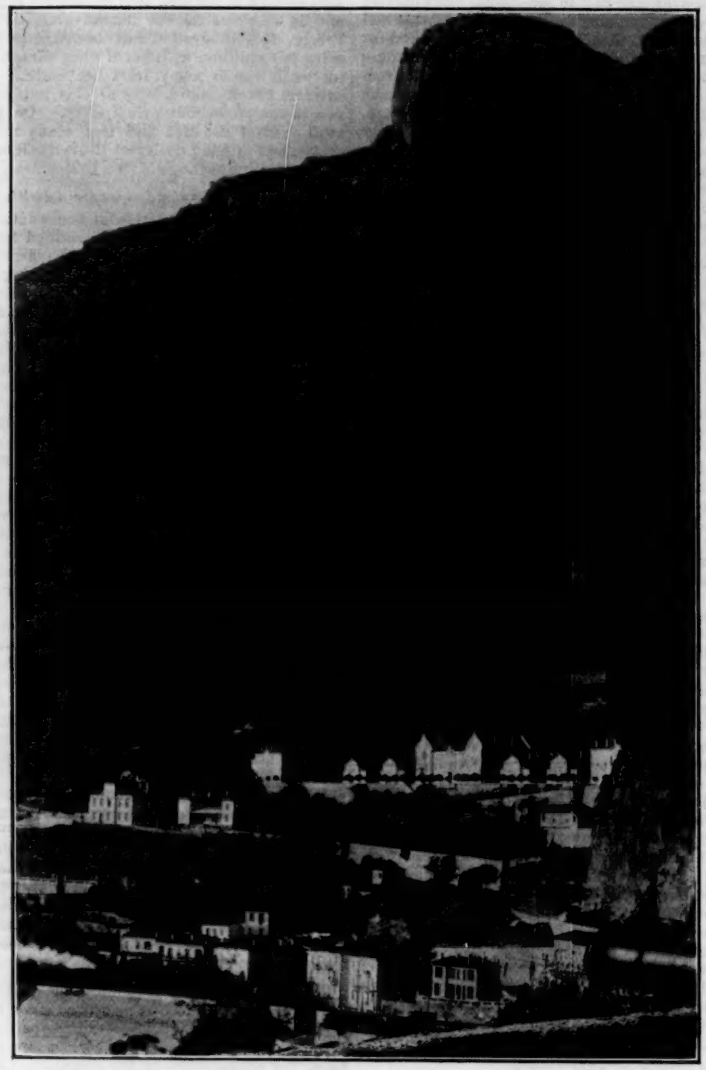
*The Conditions for Admittance.*

In regard to the question of the admission in general of patients to the hospital, I ascertained that all poor people inhabiting the principality had the first claim on whatever help can be given. The police having first made some inquiries, if the mayor confirmed the claim the patient was at once admitted. The test consisted of ascertaining if the applicant had any property or kept a shop. If he was dependent exclusively on his wages, and these did not exceed £60 per annum, then he was considered eligible for gratuitous treatment, and this no matter what the nature of the illness. Further, even if the patient earned more than £60 a year, but was the father of a large family, he would be admitted. Of course, any urgency case, or in the event of an accident, the patient, whatever his financial position, is at once taken in. Sometimes people who should be able to dispense with such help wait till they can present themselves as urgency cases. Thus one woman arrived at midnight in the throes of child-bearing and another at 3 in the morning, and they could not be sent away. The latter was a somewhat remarkable case, which four medical practitioners had refused to attend. The woman had strange ideas as to the wonders that could be accomplished at the hospital. No sooner was she admitted than she loudly and proudly proclaimed herself to be a true-born Monegasque; therefore she insisted that if she came to the hospital it was so as not to suffer. Being a real native of Monaco she maintained she had the right to enter her Prince's hospital and enjoy the privilege of painless treatment. In vain the attendants tried to persuade her that even the Prince of Monaco himself could not prevent the pain that naturally accompanied childbirth. The patient only continued her protests, treated the attendants as disloyal subjects, and wanted to know what was the use of being a Monegasque if she was to suffer like other people. Thus the terror with which the ignorant usually look upon a hospital was in this instance reversed. So high, indeed, is the reputation of the Monaco hospital among the people that they are beginning to attribute to it something not far short of miraculous powers, and many a popular legend has had no better foundation for the results at the institution have been exceptionally encouraging.

*The Favourable Results Attained.*

Dr. Caillaud, the chief surgeon, gave me the statistics. During the first year there were 78 operations of major and 20 of minor surgery and two deaths are recorded, one only being the consequence of the operation. In 1909 there were 203 major and 44 minor surgical operations; six deaths followed the operations. Altogether during seven years there have been 868 major and 200 minor surgical operations, or a total of 1068 operations with 23 deaths; 30 deaths in addition occurred among those who have been operated upon, but they were not caused by the operations. Some of these operations were of a serious character, such as double ovariotomy, laparotomy, and many removals of the appendix. Yet the total mortality directly resulting from the operations was only 2·1 per cent. These favourable results are due, not merely to the undoubted surgical skill displayed, but, according to Dr. Caillaud's own testimony, to the great safety in anæsthesia resulting from the use of the Roth-Drœger-Guglielminetti apparatus, to the admirable topographical position of the hospital, and to the lavish care

bestowed on the patient. Indeed, the topographical position of the hospital constitutes in itself a treatment that has proved effective even in some advanced cases. It is situated on very permeable calcareous soil that does not retain damp. There is nearly always a slight movement of the air because the hospital is 81 metres above the sea, which is close at hand. A ledge or shelf, measuring 2800 metres square, was cut out of the mountain side to constitute the ground on which the hospital is built. At the back, as can be seen from the photograph which accompanies these notes, the mountain rises abruptly and forms a perfect shelter from the cold northerly winds, while the hospital faces due south. Here, then, in winter as in summer, patients may lie out in the open, breathe the pure sea air, and bask in the sun. Cases of tuberculous peritonitis and arthritis are simply wheeled out into the sunshine as a treatment, and there are cases where no other is advisable. It would seem that the therapeutic effect of the pure saline air and the penetrating and purifying action of the direct rays of sunshine is a powerful one. So great are the hopes resulting from such experience that a new wing or pavilion has been added, known as the Pavilion Koch, for the treatment of children suffering from tubercle of the bones. Here there are eight beds. The Pavilion Hertz, for the out-door treatment of pulmonary tuberculosis, is another recent addition, and it contains 24 beds, equally divided into a female and a male ward. Here the patients are all day in the open air, and sleep at night with large windows wide open.



View taken from La Place du Palais, overlooking the sea. The muzzle is seen of one of the old cannon that ornament the large open space in front of the Palace. On the further side of the little arm of the sea is a building with two wings and a verandah between them. This is at a lower level than the hospital itself, and serves for the reception of out-patients. The larger building by its side contains the laundry, the post-mortem room, and the deadhouse. Above is a long terrace with a row of trees in front, behind which are seen the various pavilions of the hospital. To the left and above these, where there is a grove of olive trees, the isolation hospital is in course of construction. The whole site is sheltered from the northerly winds by the lofty Tête de Chien Mountain.

*Paying Patients of Small Means.*

For surgery and medicine there are four pavilions, with wards in front and small rooms at the back; the latter contain paying patients who only possess moderate means. They are charged from 4 to 5 francs a day, which includes food and medicine but not medical attendance. The patient has the free choice of his medical adviser, and pays him according to the tariff established by the French Concours Médical; that is something very near to 2*s.* 6*d.* a visit. There is also a charge made for operations according to the moderate tariff drawn up in view of compulsory insurance, employer's liability, and labour accident laws. Thus the man or woman of small means saves his dignity and retains his full freedom to be attended by whomsoever he may prefer. He is not the recipient of charity, but with the aid of a State organisation he is able to obtain the medical or surgical aid he needs, given him under the best conditions, and preserve as his attendant the medical adviser he prefers. On the other hand, the members of the medical profession do receive some compensation for the advice they give, and this at a rate which is superior to that given by the medical aid clubs or societies of England.

The medical staff of the hospital consists of the chief physician, Dr. du Cazal; the chief surgeon, Dr. E. Caillaud; and Dr. Marsan, who has charge of the tuberculous cases. These gentlemen are at the hospital every day at 8 in the morning and remain there two hours. The hospital is then left in charge of two *internes*—that is to say, medical students of four or five years' standing who sleep on the

premises. The work, however, is not purely honorary, but each of the three chief members of the staff receives a salary of £8 a month, and is entitled to take two months' holiday during the course of the year.

*Lavish Expenditure.*

The hospital is so well organised and the results of the treatment given are so favourable that many people who do not live in the Principality strive to obtain admittance. When they succeed they are made to pay. In constructing this hospital the Prince has spent an enormous sum for the benefit of his own people, but it is not his business to attend to the poor of other countries. Therefore, the neighbouring French communes, which are in need of hospital accommodation, have made contracts with the Monaco authorities so that they may send at least a few patients to the Monaco hospital in exchange for payment. It is found that the average actual cost of a patient varies from 3 to 4 francs a day, but with surgical cases it is sometimes twice as much. Though the hospital is so new a creation and three special pavilions have already been added to the original scheme, it is already proving too small. The surgical wards were intended to hold 12 beds, but they now contain 14. There are no mechanical means of ventilating these wards, but windows face each other the whole length of the walls, and in this beautiful climate and sheltered position they can be kept, at least in part, open all the year round. Of course, every aseptic precaution is taken, the angles of the walls are rounded off, all modern appliances are provided for the very well-installed operating room, and no expense has been spared in buying surgical instruments and sterilising apparatus. The X rays are in almost daily use, and in the pharmacy will be found some costly specialities that are not generally employed in hospitals. The working expenses are therefore high, and no one can visit this hospital without being impressed by the absence of anything suggesting poverty or squalor. The handsome solid stone buildings, the expanse and beauty of the surrounding scenery, the luxuriant semi-tropical vegetation, the well-kept gardens, with a rich variety of flowers blooming in winter as in summer, convey the impression of cheerful prosperity.

*The Nursing Home for the Wealthy.*

Of the utmost importance to the numerous and wealthy visitors is the construction of the Villa Albert at the extreme end of the terrace on which the hospital pavilions stand. Here there is a luxurious nursing home. The charge varies from 8*s.* to 16*s.* a day, according to the room occupied. The patient further pays for the medicines, and engages his own medical adviser. An admirable operating theatre is attached to the villa. The patient has all the comfort and luxury of a first-class hotel and the charges made are certainly not higher, if as high, while the position occupied, the purity of the surrounding air, and the constant attendance of fully-trained nurses give much better promise of early recovery than could be expected in a hotel or private house. This institution is a great boon to the traveller suffering from ordinary disease or accident. But such a traveller is still in a very serious position should he contract some infectious disease while in Monaco. An occurrence of this sort is fatal to the hotel-keeper, who forthwith becomes merciless and wants to bundle his tenant away at once, while there is nowhere for the patient to go. At present near the hospital there is an engine puffing hard under a huge scaffolding which marks the cutting of another terrace higher up the mountain. Here a model isolation hospital will be built, with accommodation for ordinary cases, and with luxurious rooms for wealthy paying patients. In the meanwhile a wooden temporary structure is used for isolation purposes, and in this there is need for improvement. But as excellence rather than economy is the rule in Monaco we shall doubtless soon see a model isolation hospital.

DONATIONS AND BEQUESTS.—Mr. J. C. Wills, of Plymouth, has bequeathed £500 to the Royal Albert Hospital, Devonport.—Sir Audley Neeld has given a site of nearly one acre in the central part of Hendon on which it is proposed to erect a cottage hospital as a memorial to King Edward VII.—Dr. J. H. Bartlet, President of the East Suffolk and Ipswich Hospital, has given £1000 to endow a bed in that institution in memory of his late wife.

## MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

*Cotton Dust in Mills.*

A LONG-STANDING vexed question as between employers and workmen in the cotton industry—viz., the dust problem in cotton mills—appears now to be engaging the attention of the cotton spinners and mill owners of Lancashire. The innumerable fine particles of the fibres of cotton that are disseminated in the atmosphere of a cotton mill in part account for the enfeebled vitality and the frequency of bronchial troubles amongst the cotton operatives, women, of course, forming the great majority of the hand-workers. The mechanical irritation produced by continually inhaling such particles undoubtedly tends, not only to render existence unpleasant, but to shorten life itself. There has now been put on the market machinery designed to make rooms and sheds dust-free. In the card and spinning departments steaming has to some extent diminished the evil. It is not enough to stop the machinery and dust it—i.e., merely to redistribute the organic and other particles of dust in the atmosphere. Something more is required—viz., the removal or extraction of the dust particles from the shed or work-room as far as this is possible. In Russia, whose cotton mill machinery comes mainly from Lancashire, new apparatus for purifying the air is being installed.

*New Regulations for Instruction in Midwifery at Manchester University.*

A short time ago the authorities of the University of Manchester made a very important and drastic change in the regulations regarding instruction and attendance in practical midwifery on the part of those who wished to obtain its degrees of Bachelor of Medicine and Master of Surgery. Most examining bodies require attendance on a certain number of cases of midwifery under proper medical superintendence before they are admitted to a qualifying examination. Acting apparently upon some recommendations of the General Medical Council the University passed a resolution that students must actually reside for three months in a "lying-in hospital" approved by the University. This, of course, meant a substantial addition to the already heavy expenses of the medical student. The authorities have given notice that this regulation has been so altered as to provide in future that instead of three months' residence in a lying-in hospital one month will suffice, provided the necessary 20 cases be duly certified. It would be interesting to know if any other university or qualifying body adopted the suggestion of the General Medical Council and with what result.

*Vermin and Disease.*

A most meritorious society which busies itself with the public weal is the Manchester and Salford Sanitary Association, the oldest of its kind in the United Kingdom. At its annual meeting held on April 28th, Mr. J. Cantlie gave a lecture on the Part Played by Vermin in the Spread of Disease. He traced the traditional hatred of vermin by the human race, and especially by women, to the knowledge that it was vermin which carried disease. Mr. Cantlie detailed the well-known facts about the mosquito as a carrier of disease. He also dealt with the domestic fly and its depredations, but confessed that he knew no good way to kill this disease-carrying insect. Spring-cleaning no doubt cleared them up, but perhaps the best method of getting rid of them is to destroy them when they are hibernating. Their breeding-places also should be attacked.

*Smoke Abatement in Manchester.*

Manchester has lately become a great centre for "exhibitions" of various kinds, though so far we have not received a visit from any tuberculosis exhibition. However, a very needful and useful project has taken shape—viz., the establishment of a "Smoke Abatement Exhibition" to be held here in November next. A similar exhibition was held in Glasgow some time ago. There is really no organised method for grappling with this tremendous evil in Manchester and the immediate neighbourhood. Indeed, there does not appear to be a "smoke abatement society" in the city. The object of the exhibition is to show the manufacturers and householders

how energy and heat can be produced economically without smoke. There is no doubt that our murky atmosphere could be greatly improved, and thereby our death-rate diminished. Manufacturers, it is alleged, do not trouble themselves greatly about casting forth volumes of smoke into the atmosphere if they are not vigilantly watched. In Manchester alone there are actually five smoke inspectors, but when offenders are brought before the police courts the penalties inflicted are so small that it appears to pay manufacturers to go on meeting these fines rather than to alter the conditions of their furnaces and boilers. Indeed, a stronger Act of Parliament is required.

*Alcohol in Chocolates.*

In an address delivered a few years ago Sir James Crichton-Browne called attention to certain sweetmeats that were so made as to contain some form of alcohol. The Manchester stipendiary gave judgment in a case of this kind on April 26th. The defendant was summoned by the Inland Revenue Commissioners for selling without a licence retail spirits which it was alleged took the form of chocolate liqueurs. Chocolates were purchased by two policemen, and on analysis by a Government analyst those marked "Chartreuse" were found to contain 8 per cent. of proof spirit, and those named "Cognac" 10·6 per cent., while another kind contained 12 per cent. In giving his decision, the stipendiary stated that there was no definition of the word "spirit" in the Finance Act, 1910, nor in the Acts referred to in the first schedule. In his opinion spirits must be taken in their ordinary meaning, and he thought cognac and chartreuse were comprised within such meaning. There was a substantial quality of proof spirit averaging 10 per cent. in the above-mentioned liquers, and such liquers were spirits within the meaning of the Act. A fine of £3 was inflicted, and the defendant was ordered to pay 10 guineas costs.

*Recrudescence of Small-pox in Stalybridge.*

Cases of small-pox still keep cropping up in Lancashire towns. On April 25th five new cases were notified in Stalybridge. The disease appeared in the town two months ago; 12 cases have been notified, and of these 11 were females. The town council has decided that for six months chicken-pox shall be a compulsorily notifiable disease. Not one of the five new cases had been previously vaccinated.

*The late Dr. Henry Simpson.*

The board of management of the Manchester Royal Infirmary at its last meeting passed a resolution expressing its regret at the death of Dr. Henry Simpson, who was for 45 years a member of the honorary staff of the infirmary. The resolution recorded the great services Dr. Simpson rendered during the time he was an active member of the staff and the keen interest he continued to take in its welfare after his retirement.

*Manchester and District Cambridge Graduates' Medical Society.*

This society held its annual meeting and dinner, under the presidency of Dr. G. R. Murray, who has succeeded Dr. A. Godson, at the Queen's Hotel, Manchester, on April 27th. The object of the society is to hold together Cambridge medical men, and to afford them an opportunity of meeting each other. It includes nearly all the Cambridge men in the town, and many in the surrounding districts and counties. There are now 43 members, as well as associates, the latter being Cambridge students not yet qualified who are working at the Manchester Medical School. The dinner was very successful. Professor Lamb, of the Victoria University, was the guest of the society, and Mr. A. E. Shipley, Master of Christ's, was the guest of the Christ's members, who gave a hearty welcome to their new master. Mr T. S. P. Strangeways of the Cambridge Pathological Department was also present, and in his speech described the origin and the work of the Research Hospital at Cambridge, to which the society is a subscriber. Speeches were made by Professor Lamb, Mr. Shipley, Dr. A. H. Godson, Dr. H. R. Hutton, Professor Toller, and Dr. A. Hopkinson. In response to the toast of the chairman, Dr. Murray gave an account of the leaders of Cambridge medicine of his time.

May 2nd.

## BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

*The University.*

As a result of representations made by the city council when an increased grant was made recently from the rates the council of the university have formulated a scholarship scheme. Twelve entrance scholarships tenable for four years giving free admission to the degree courses in any faculty will be offered for competition on the results of one of the intermediate examinations (science, arts, and first medical) held in June, or on the matriculation examination held in July next. Candidates must be unable to pay the ordinary class fees, and they may further apply for an annual grant towards maintenance (which will in no case exceed £30) on the ground that they are unable to avail themselves of such scholarships without such a grant. Candidates must be resident within the present or extended boundaries of the city, and have been so resident for at least one year, and must have been pupils in one of the schools in that area. Competitors will be arranged in order of merit and must reach such a standard as, in the opinion of the university, offers a reasonable prospect of a successful or distinguished career.

*Housing Problem.*

Birmingham has obtained a considerable reputation as a pioneer in town planning and housing reform, and many visits are being made to the city by municipal authorities and social reformers in all parts of the world. Arrangements are being made for representatives from Quebec, Montreal, Toronto, Winnipeg, and some other towns in Canada to visit Birmingham in May or June. On May 4th about 50 members of the Shrewsbury Housing Reform Council are coming to Birmingham to study the methods of dealing with the slums, and on May 20th some 300 members of the Halifax Citizens' Guild of Help will pay a visit to the Bordesly Green and Harborne Tenants' Estates, while on July 13th and 14th a reception is to be given to a party of 100 representatives of German municipalities.

*A Healthy City.*

An interesting address was given by Dr. J. Robertson, the medical officer of health, at the annual meeting of the local council for the National Registration of Plumbers held in the University. Some instructive statistics were given as to the diminishing death-rate from diseases caused chiefly by insanitary conditions. The discovery of electric light and steam-power was relatively unimportant compared with the improvement in public health. In 1851 Birmingham, or rather Greater Birmingham as they knew it now, had roughly a population of a quarter of a million. In 1910 the population was 878,000. The death-rate in 1851 was 26 per 1000, in 1910 it was 12·5 per 1000. That meant that if the death-rate for 1851 had continued there would have been 12,000 more deaths in the city last year than actually occurred. Birmingham to-day was almost certainly the healthiest manufacturing city in the world. There had not only been a great saving of life, but also a great saving of sickness and all that followed sickness. One instance was typhoid fever, which had been reduced almost to vanishing point. Another was phthisis, deaths from which had uniformly decreased with improved housing conditions. Instead of there being 268 deaths per 100,000 from consumption, there were now only 109.

May 1st.

## BRISTOL AND THE WESTERN COUNTIES.

(FROM OUR OWN CORRESPONDENTS.)

*The University of Bristol: Impending Changes.*

AT a reception of the members of the Association of Alumni held last week in the new wing of Bristol University, the Vice-Chancellor of the University, Sir Isambard Owen, made some interesting remarks as to future developments. He reminded his hearers that in a few weeks the University would come into possession of that portion of its recently acquired site facing Queen's-road, on which the vacant buildings of the Blind Asylum stand, and said that "in the course of time" they hoped to set the architect at

work and cover the site with a fine block of buildings. The general belief is that the buildings at present standing on that site will be utilised temporarily for library and other accommodation, which will be rendered necessary by a proposed re-adjustment of the other parts of the University buildings. The greater part of the wing at present used by the medical school is to be devoted to administration; the medical library will be removed to the Blind Asylum buildings and the pathological department will be housed in the new wing. It is said that the room at present used as a medical library will be converted into the council chamber. As this is the room at present used for meetings of the Medico-Chirurgical Society, as well as for those of the British Medical Association, these organisations will also be displaced.

*The Bristol Medical Golf Society.*

The medical men of Bristol have recently established a golf society for the organisation of competitions and matches with other clubs. This society has now over 20 members, and has just held its first annual meeting after a very successful season. Dr. H. W. Aubrey was elected captain for the ensuing year, and Mr. F. T. B. Logan, of local cricket fame, was appointed honorary secretary and treasurer.

*Bristol Royal Infirmary.*

The King and Queen have graciously extended their patronage to the Bristol Royal Infirmary.

*Death of Mr. George Hope Warren.*

Mr. G. H. Warren, of Rostrevor House, Mannamead, Plymouth, died on April 20th. Mr. Warren, who was only 34 years of age and unmarried, received his medical education at King's College Hospital and qualified as L.R.C.P. Lond. and M.R.C.S. Eng. in 1904. He shortly afterwards commenced practice in Plymouth, where he soon became very popular. He was assistant physician to the Plymouth Public Dispensary and honorary surgeon to the St. Peter's and All Saints' Dispensary. He took a great interest in the Volunteer movement, and was a lieutenant in the 2nd Wessex Field Ambulance, R.A.M.C. (T.F.). Whilst attending a route march on April 20th his horse became restive in consequence of the noise from a train and he fell. He was removed by ambulance to the hospital, where it was found he had a fracture of the base of the skull, which proved fatal in a few hours. At the inquest a verdict of "Accidental death" was returned. The funeral took place on April 24th, with military honours and in the presence of a large number of people.

*The Responsibility of Isolation Hospital Authorities.*

At the Torquay county court recently, before his honour Deputy Judge Lush, an ex-police sergeant was awarded £50 and costs for damages sustained by the illness and death of his son, aged 15 years, owing to the negligence of the corporation servants at the borough isolation hospital. The solicitor for the plaintiff stated that no reflection was made upon the medical officer of health, a gentleman for whom they all had the highest esteem, but he contended that the boy, whilst "peeling" from scarlet fever, was allowed by the matron and nurse to mow the grass on the lawn and also to clean windows, and that in consequence he contracted rheumatism and heart mischief, and eventually died about six months after leaving the institution. The solicitor alluded to the fact that neither the matron nor the nurse was a "trained nurse." For the defence it was stated that there had been no negligence, that the matron had warned the boy not to use the lawn-mower but he refused to obey, and that death occurred from events which took place after he left the institution. His honour, in summing up, said there were three questions for the jury: (1) Was there any negligence on the part of the corporation servants? (2) If there was negligence, was what took place the result of the corporation servants' negligence, or was it due to the fault of the boy? (3) Supposing negligence on the defendants' part, and no contributory negligence on the part of plaintiff, or his son, was there a sufficient connexion between the alleged negligence and the cause of death? The jury found for the plaintiff on all the questions.

*Proposed Medical Officer of Health for East Devon.*

Dr. S. W. Wheaton, of the Local Government Board, held an inquiry at Honiton on April 12th into a representation made by the Axminster rural district council advising that a medical officer of health should be appointed for the borough of Honiton, the urban districts of Ottery St. Mary, Seaton, and Sidmouth, and the rural districts of Axminster and Honiton, and suggesting that this area should be formed into a combined district. There was a large attendance. It was stated that with the exception of the Axminster rural district council all the other public bodies were opposed to the scheme. The Local Government Board inspector will report in due course.

*The Penzance Board of Guardians and its District Medical Officers.*

There has recently been some friction between the Penzance board of guardians and its district medical officers in reference to the inadequate remuneration which they received. Mr. C. Branwell some weeks ago resigned the appointment of medical officer for the fifth district, stating that the salary of £30 was quite insufficient. The other district medical officers also intimated that their salaries were insufficient. The guardians gave Mr. Branwell notice to terminate his vaccination contract, and they advertised in the local press for a successor. The medical press would not insert the advertisement. No application was received for the posts, and the guardians eventually decided to increase the salaries of all their medical officers from £30 to £50 per annum, and this arrangement was mutually agreeable. At the last meeting of the guardians there were two applicants for the post of medical officer and public vaccinator for the fifth district. The salary being now made satisfactory, Mr. Branwell applied for the post he had previously resigned, and Mr. J. H. Wilson also was a candidate. The voting resulted in the election of the latter, who secured 24 votes against 19 obtained by Mr. Branwell.

*"A Wonderful Record."*

At the last meeting of the Warminster (Wilts) board of guardians the chairman referred with regret to the resignation of Mr. Frederick I. Flower, who had been district medical officer for many years. His father was one of the first medical men appointed under the present Poor-law service, and was district medical officer of the Warminster union for 50 years. Then a brother of Mr. Flower held the post for 10 years, and was succeeded by Mr. Flower, who has held the appointment 30 years, thus making an aggregate of 90 years' service by members of the family, which the chairman considered a wonderful record.

May 2nd.

## SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

*Dr. Norman Walker's Candidature for the General Medical Council.*

Dr. Norman Walker addressed a meeting of the medical profession in the Faculty Hall, Glasgow, last week. Sir David McVail presided over a large attendance. Dr. Walker in his address referred to the duties and the limitations of the Council, and to the work of the various committees. Some might think that those various duties were of comparatively little interest to the general practitioner. He did not agree with that. The most important thing which the Council had done for the practitioner since he was a member was the appointment of a committee to inquire into unqualified practice in the colonies and dependencies of the Empire and in foreign countries. The committee had brought together a great deal of valuable information. Eighty colonies and foreign countries forbade the practice of unqualified persons under penalty of fine and imprisonment. In France, San Domingo, and Brazil persons were penalised for practising without registration, whether they were qualified or not. In Australasia, Sierra Leone, Barbados, St. Vincent, the Falkland Islands, and Germany conditions were the same as with us. Protection was given only to the title. The General Medical Council requested the Government to take steps for the appointment of a Royal Commission to inquire into the evil effects produced by the unrestricted practice of medicine and surgery by unqualified persons. That resolution was communicated to the Privy Council, which transmitted it to the Local Government Board. The latter body had sent out circulars of inquiry and had

issued a Blue-book containing the replies. The next step was down for consideration at the session of the Council this month.

*The Death of Dr. Bernard Ramsay Craig Christie.*

Dr. Craig Christie, a well-known general practitioner in Edinburgh, died on April 20th in his forty-second year from the effects of an attack of influenza. He was the younger son of the late Mr. Thomas Craig Christie of Bedlay and Peterhill, and received his medical education at Edinburgh, Glasgow, and Dublin. In 1897 he took the degrees of M.B., C.M. of the University of Edinburgh, and held the appointment of assistant medical officer at the Gartloch Asylum and Hospital and other local residential posts. In Glasgow he held several resident appointments at the Royal Infirmary. He obtained the M.D. of the University in 1901, commenced general practice at Comrie in Perthshire, but afterwards removed to Inverleith Gardens, Edinburgh. Dr. Craig Christie, who was unmarried, died at the residence of his mother at Bedlay, Chryston, Lanarkshire. The Boy Scouts, on whose behalf he greatly interested himself and by whom he was much liked, walked in front of the funeral procession at Bedlay Cemetery.

*University of Glasgow.*

The spring graduation ceremony took place at the University of Glasgow on April 24th. Three medical men graduated M.D., while the degree of Master of Surgery was conferred on one graduate. The degrees of Bachelor of Medicine and Bachelor of Surgery were conferred on 49 graduates, among whom were five ladies. The degrees were conferred with honours upon two gentlemen, and with commendation upon five gentlemen.

*Emeritus Professor J. Cleland.*

Last week an interesting ceremony took place at the University of Glasgow in connexion with the retirement of Professor John Cleland from the chair of anatomy. In the first place the honorary degree of Doctor of Laws was conferred on Dr. Cleland, and later his portrait, painted by Sir Robert Reid, was presented to the University. In presenting the portrait, Principal J. Yule Mackay of Dundee said that while Professor Cleland had retired, what he did when he was at the University remained to the lasting honour of the place. No one had done more than Professor Cleland to reconcile the purposes of science with those of religion and philosophy, and to show that their real results were at one. For the last 30 years he had stood forth a great and inspired figure. Principal Sir Donald MacAlister accepted the portrait on behalf of the University. The presentation of a second portrait to Mrs. Cleland was made by Mr. Henry Barr, D.L., and Professor Cleland made a suitable acknowledgment.

*Post-Graduate Classes at Glasgow Royal Infirmary.*

The thirteenth session of post-graduate classes at the Glasgow Royal Infirmary began on Monday, May 1st.[1] The list includes a very complete series of subjects, and the hours are so arranged that the days during the month of May will be very completely occupied in reviewing not only clinical medicine and surgery but also many of the special branches of study. The very large attendance of patients at the Royal Infirmary (155,667 during 1909) places the staff in an unusually strong position for conducting post-graduate demonstrations. Since the institution of these classes it has been the aim of the teachers to make the instruction as practical as possible, and as an indication of the appreciation of the profession for this form of study, during the last five years the annual attendance of graduates has been from 75 to close upon 100. Many of the classes are conducted in the new surgical house, the south wing of which will be finished this summer, when the facilities for surgical work will be very complete. The following courses have been arranged. Clinical Medicine: Walter K. Hunter, M.D. Clinical Surgery: John Barlow, M.D., and Henry Rutherford, M.B., C.M. Diseases of the Urinary Organs: David Newman, M.D. Diseases of the Bladder: A. G. Faulds, M.B., C.M. Clinical Examination of the Urine: John Henderson, M.D. Gynæcology (*a*): G. Balfour Marshall, M.D. Diseases of Throat, Nose, and Œsophagus: John Macintyre, M.B., C.M. Diseases of the Ear: J. Kerr Love, M.D. Diseases of the Eye: John Rowan, M.B. Diseases of the Skin: Alex. Morton, M.A., M.D. Diseases of the Throat and Nose: Robert Fullerton, M.D. Asthma and Related Nasal and Pulmonary Conditions: James Adam, M.A., M.D. Venereal Diseases: A. N. Macgregor. Electro-Therapeutics: James R. Riddell, F.R.F.P.S.G. Vaccine-Therapy and Opsonic Technique: J. A. Campbell, L.R.C.P., &c. Immunity: E. T. Fraser, M.D. Anæsthetics: John Donald, M.D. Gynæcology (*b*): A. G. Banks, M.D. Bacteriology: David McCrorie, L.R.C.P. It will facilitate arrangements if those desirous of joining the classes will communicate with Dr. Maxtone Thom, the superintendent, who will supply any further information.

[1] Details will be found in advertisement columns, April 8th, p. 61.

*Association of School Medical Officers for Scotland.*

The first meeting of the above association was held in the offices of the Govan Parish School Board, Glasgow, on Saturday, April 8th, Dr. Ernest T. Roberts in the chair. There was a fairly large and thoroughly representative attendance of school medical officers. The constitution of the association was finally approved, and it was decided in the meantime to proceed as a separate and distinct association and not to seek affiliation with any existing society. The following officers were appointed for the ensuing session:—President: Ernest T. Roberts, M.D. (Glasgow). Vice-Presidents: George Rose, M.B., D.P.H. (Aberdeen); and Geo. Arbuckle Brown, M.B., B.Sc., D.P.H. (Govan parish). General secretary and treasurer: J. King Patrick, M.B., D.P.H., County-buildings, Ayr. Reporting secretary: A. E. Kidd, M.B., D.P.H. (Dundee). Members of council: Miss Kate Fraser, M.B., B.Sc. (Govan parish); J. Hally Meikle, M.A., B.Sc., M.D., D.P.H. (Edinburgh); A. F. MacBean, M.A., M.B., D.P.H. (Fifeshire); John Macintyre, M.B., D.P.H. (Lanarkshire); and A. A. McWhan, M.B., B.Sc., D.P.H. (Berwickshire).

*Inverness Hospital Accommodation.*

Owing to complaints made in connexion with an outbreak of diphtheria in Inverness, Dr. T. F. Dewar, medical inspector of the Local Government Board, after an inquiry, reported that in consequence of inadequacy of the nursing staff the patients had suffered. He also states that the present accommodation and arrangements of the hospital are insufficient for the requirements of the burgh. The Local Government Board is communicating with the local authority as to improved hospital accommodation.

*Sidlaw Sanatorium and City Patients.*

Arrangements have been made for using the seven beds in the Sidlaw Sanatorium to which the corporation of Dundee have rights under the arrangement with the Royal Infirmary directors. The charge for the maintenance of the patients is 30*s.* per week.

*Abuse of Carnegie Trust.*

In the cage of the University of Aberdeen on April 25th the following notice was posted: "It is hereby intimated that a student in the Faculty of Medicine, having been found guilty of obtaining payment of class-fees from the Carnegie Trust by falsely representing that he had passed a professional examination, and was thereby entitled to continue as a beneficiary of the Trust, has been rusticated for an indefinite period." The student who has been rusticated is said to hail from the North. This is the first time that such action has been found necessary in connexion with the operations of the Carnegie Trust.

*Grants to the Universities: Aberdeen Scheme of Allocation.*

Of the grant of £9000 which Aberdeen will ultimately receive, only £4500 are paid this year, and the Treasury has approved of the following allocation: increase in Principal's salary, £200; maintenance of buildings, £700; libraries, £700; laboratories and museums, £780; lecturers, £751; University assistants, £775; examiners, £244; administration, £200; service, £150.

*Donations to Elgin Hospital.*

In response to the appeal for the Elgin Hospital £207 have already been subscribed.

*Aberdeen University General Council: Resignation of Dr. Angus Fraser.*

At the half-yearly meeting of the General Council of the University of Aberdeen, held on April 15th, a letter was read from Dr. Angus Fraser resigning from the council.

*Aberdeen District Committee and Small-pox.*

At a recent meeting of the public health committee, Dr. J. P. Watt, medical officer of health, again drew attention to the number of unvaccinated children, with regard to the inquiry of the Local Government Board as to what provision the local authorities proposed to make for the isolation and treatment of small-pox. Dr. Watt said that what was wanted was not small-pox hospitals but a vaccinated community. Local authorities under the Act had power to get returns of the unvaccinated, and he thought he should get returns from the registrars. The number of unvaccinated children was increasing every year, and the matter was a very serious one which should be taken up.

*Health of Nairn.*

Dr. J. A. Cameron, medical officer for the county of Nairn, has issued his annual report. The birth-rate was 21·51 per 1000, about which average it has continued for the last 20 years. The death-rate was equal to 9·69 per 1000, a rate considerably below the average for the last 20 years. Over 39 per cent. of the deaths were of persons over 60 years of age. The infantile death-rate was 109·89 per 1000 births registered, which is above the average of the preceding 20 years. Dr. Cameron said that there would appear to be no outstanding conditions or influences, applicable to the district at large, injurious or dangerous to the health of the inhabitants, but rather the reverse, both topographically and meteorologically. The main points to be attended to were the provision of good water-supplies to the various communities and to the many isolated homesteads and cottages, with good accommodation for the labouring classes and good sanitary surroundings. During the year there were notified infectious cases as follows: erysipelas, 3; scarlet fever, 24; diphtheria, 1; and puerperal fever, 1. Of the 29 cases 1 proved fatal, that of puerperal fever. Regarding the scarlet fever cases, the majority occurred in the parish of Auldearn, and the infection in the first case was traced to one of the southern counties. The case proved the basis of a somewhat lengthy correspondence. Four deaths were notified as due to phthisis and one other death to another form of tuberculous disease. No case of cancer or any form of malignant disease was certified as the cause of death during 1910.

*Medical Officership of Elgin.*

At a meeting held on April 18th of a joint committee of the Elgin County Council and the Secondary Education Committee, Dr. Robert Douglas was selected for recommendation to the County Council and County Education Committee for the appointment as medical officer of health and school medical officer for the county. The salary of medical officer was formerly £550, this sum to include all expenses. Dr. Douglas is a graduate in arts of the University of Aberdeen, and in medicine of the University of Glasgow, and holds the diploma in public health of the University of St. Andrews. In 1907 he gave up private practice and devoted his whole time to the study of public health. He was appointed as assistant to the medical officer of health of the county borough of Reading, the appointment being rendered necessary through an outbreak of diphtheria in the district. After some time at Reading he was appointed school medical inspector under the Norfolk Education Committee. During this appointment Dr. Douglas had to undertake the visitation and examination of schools giving accommodation to 27,000 children. After nine months the West Riding County Council invited him to return as school medical inspector and become one of its permanent staff, which office Dr. Douglas resigns on taking up his duties in Elgin.

May 1st.

## IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

*Street Trading by Children.*

Lord Shaftesbury's Bill at present before Parliament prohibiting street-trading by children has come in for much criticism in Dublin, where it is believed that the earnings of the children are often essential to the upkeep of the home. In a lecture to the Statistical and Social Inquiry Society last week Mr. J. R. O'Connell pointed out that the supervision of street-trading in Dublin was quite inadequate. The entire supervision is in the hands of the constables, whereas every constable should deal directly with the traders on his beat. One of the earliest public bodies to enact the regulations governing street-trading by children was the corporation of Dublin, but many of the most important of these regulations have not been enforced. Thus, there is no interference with children trading during school hours, nor are children bound to produce certificates of attendance at school. Mr. O'Connell urged the coöperation of several authorities—the Dublin Police Force, the Public Health Committee, and the school attendance committees. He also maintained that badges should be issued with care, and that no child physically or mentally unfitted for such work should be permitted to enter on street-trading. Councillor James, president of the Children's Court, who has devoted much time to the interests of newsboys, in the discussion on Mr. O'Connell's paper, held that Lord Shaftesbury's Bill was impracticable, as far as Dublin was concerned. A boy or girl was better employed selling papers in the streets than spending time in a tenement house.

*The Teeth of Workhouse Children.*

The South Dublin guardians have decided to appoint a dentist to care for the teeth of the children in the union workhouse. This is the first appointment of the kind in Ireland, but it is hoped that other boards will soon follow the example.

*Censure by the Local Government Board.*

The Local Government Board recently held a sworn inquiry into a charge preferred against a medical officer of a western workhouse of accepting fees from patients in the workhouse hospital. At the inquiry the charge dwindled down to the case of one patient. It was admitted that the medical officer accepted a sum of 10*s.* from a patient in the hospital, but he maintained that it was in payment for treatment prior to the patient's admission. In reporting their conclusions to the guardians the Local Government Board remark:—

> Had it been clearly established that the money in question was a consideration for Mrs. Grady's treatment in the hospital, the Board would not have hesitated to remove Dr. Gill from office by Order under seal. In any circumstances they consider that he was guilty of a grave indiscretion in accepting payment from a patient in the wards of the workhouse hospital, and they have to request that the guardians will censure him for accepting this money. The facts of this case have been noted against Dr. Gill.

This action of the Local Government Board is apparently illegal. The medical officer's statement that the money was in payment of an old debt is not questioned, and in that case his receiving it while the patient was in the hospital was not a breach of any regulation which the Local Government Board can properly note against him. The guardians did not adopt the Board's suggestion to censure their medical officer.

*Miss Magan's Bequests.*

The question of the disposal of one of the late Miss Magan's bequests has come before the Court of Appeal in an appeal from the order made by the Master of the Rolls giving the sum in dispute to Sir Patrick Dun's Hospital. The sum of about £7000 was left by Miss Magan to build, or assist in building, a hospital to the memory of the late Dr. Fleming. As this object could not be carried out, the executors obtained the permission of the Master of the Rolls to hand the amount to the governors of Sir Patrick Dun's Hospital. In asking for this order one of the executors put in an affidavit to the effect that "during his lifetime Dr. Fleming was for many years attached to Sir Patrick Dun's Hospital, and was deeply interested in its success." This affidavit seems to have been based on a misconception, as Dr. Fleming had had no official connexion with Sir Patrick Dun's Hospital, except that he had been a student there for one year, whereas he had been surgeon to the House of Industry Hospitals for 17 years, and consulting surgeon to Dr. Steevens' Hospital for some years. These hospitals sought to change the decision of the Master of the Rolls, but the Court of Appeal declined to interfere with the discretion of the Master of the Rolls. It would appear that the latter had made his decision on the merits of the case, unbiased by the misleading affidavit.

*The Delayed Census in Ireland.*

The fact that in Scotland statistics relating to a very considerable area of the country, including the large cities and most of, if not all, the towns, have been published, has drawn attention to the extraordinary delay in Ireland where, as one

of the Belfast papers of April 28th points out, the actual collection of the Census papers has not yet even been completed. The absurd delay is attributed to the arrangement under which the distribution and collection of the papers are imposed as an additional duty upon the Royal Irish Constabulary, who have no special inducement to expedition in this matter. As a consequence, the figures will assume—when they come out—a very belated character; whereas the result of this Census is of immediate importance as carrying more information to the judicial and reflective mind about the economic conditions of Ireland than any returns that have been made.

*Resident Appointments in Cork.*

Professor D. T. Barry of Cork has drawn attention to a serious defect in medical education in that city. It appears that there is a tendency for the same men to be re-elected time after time to the resident hospital appointments, so that the educational value of the latter for young graduates is lost. It is not unusual for the same gentleman to hold a house surgeoncy or physiciancy for from five to ten years. The system is a great hardship on young graduates, who are forced to seek elsewhere than in the place of their education for the resident appointments which are so desirable for the attainment of thorough proficiency.

*Health of Belfast.*

At the monthly meeting of the Belfast city corporation, held on May 1st, the report of the medical officer of health showed that for the month ending April 15th the death-rate of Belfast from all causes was 20·2, while from zymotic diseases it was 0·6, and 8·1 from chest affections. Eighty-one cases of infectious disease were notified during these four weeks, as compared with 98 in the preceding month, and 96 in the corresponding period of 1910. The cases of pulmonary tuberculosis notified were also less, being 46, as compared with 53 in the previous month. The only regrettable feature is the high death-rate (20·2 per 1000), as compared with 17·2 in the preceding four weeks; it is less, however, than the 20·6 of the corresponding period of 1910. The increase is due to the number of deaths from chest affections, the rate from this cause being 8·1, as against 6·1 in the preceding month and 7·0 in the corresponding month of last year. The death-rate from all causes is lower in Belfast than that of the 22 principal town districts of Ireland—the former being 20·2, the latter 21·1.

*Improvement Scheme in Belfast.*

On April 24th an inquiry was begun in Belfast by Mr. Arthur Taylor of Dublin as to claims for compensation made by any persons whose lands and premises were to be taken, or who alleged they would be injuriously affected by anything done by the Belfast corporation in the execution of their powers to acquire, under their improvement scheme of 1909, certain areas which they were authorised to purchase and to take for the purpose of improving the city. Mr. Taylor is to act as arbitrator in the matter. The total number of claims to be revised is 1099, and of these 896 are made on the part of occupiers, and 203 on the part of owners and lessees. The claims amount to £150,000.

*Londonderry Infirmary.*

At a meeting of the committee of management of this institution, held on April 15th, Dr. H. W. Cunningham was appointed honorary physician and Dr. J. N. M'Laughlin honorary surgeon.

*Dundalk Board of Guardians and Mr. J. O'Brien.*

At a special meeting of the Dundalk board of guardians, held on April 24th, a resolution was passed postponing for six weeks the further consideration of a letter from the Local Government Board relative to the position of Mr. J. O'Brien, medical officer of Barronstown dispensary district of the Dundalk union, who was reported by the election petition judges as having been guilty of illegal practices at the recent North Louth election. As it is understood that a memorial is being signed by the people for presentation in the proper quarter on Mr. O'Brien's behalf, it was deemed advisable to wait until the result of that movement was known. At a subsequent meeting of the rural council members were coöpted in place of one who had died and of three who had been unseated by the judge's report in the North Louth election petition.

May 2nd.

## PARIS.

(FROM OUR OWN CORRESPONDENT.)

*Enlargement of Paris Hospitals.*

THE Municipal Council of Paris has set apart, from the important loan now realised, a sum of 10,000,000 francs to be applied to the great improvements required in the hospitals and asylums. 300,000 francs will be devoted to the enlargement of the central stores of the Assistance Publique, 1,300,000 francs to the rebuilding of Hôpital Cochin, 1,810,000 francs to the reconstruction of the Hôtel-Dieu, 100,000 francs to Hôpital Broussais, 226,000 francs to Bicêtre, 155,000 francs to the Sick Children's Hospital, the reserve stores of hospital linen will be increased by 500,000 francs, 100,000 francs are to be spent in enlarging the sanatorium at Hendaye, and 40,000 francs on a lecture hall at the new hospital of La Pitié.

*The Museum of the Assistance Publique.*

The director of the Assistance Publique has within the last few years started a central museum in which he has gathered together a portion of the works of art and curiosities distributed throughout the Paris hospitals. The utility of this enterprise is questioned by many people, for the museum, which is situated in the main building of the Assistance Publique, is rarely visited (though mentioned in the guide books), since its contents are not of a nature to arrest the attention, in comparison with many other collections infinitely more curious. Moreover, it deprives the hospitals of works of art and other objects which owe their historic interest mainly to the site in which they were placed. One cannot but regret, for example, that from the chapel of the Hôpital de la Maternité (the building is an ancient convent) a very fine picture has been removed, the work of Philippe de Champagne, painted in commemoration of his daughter's taking the veil in this convent. At the present moment it is proposed to remove from the Salpêtrière some fine pieces of furniture with gilded mountings, a portrait of Louis XIV. attributed to Mignard, and two statues by the sculptor Etex; and from the Hôpital de la Pitié seventeenth century wood-carvings and stained-glass windows. In many hospitals a certain number of historic relics is still preserved and visited with interest. It would seem a better plan to create in each hospital a small museum, especially where these vestiges of the past are important. At the Hôpital St. Antoine, for instance, a stone with an engraved inscription dated 1643 and an eighteenth century bronze mortar are preserved; at the Charité several pictures of benefactors of the seventeenth century; at the Hôpital Cochin a collection of pharmacy jars, a bust, and a portrait of J. D. Cochin; at the Hôpital Neckar, two eighteenth century paintings, one of which is the portrait of Madame Neckar; at the Maternité, two flat tombstones of the seventeenth century; and lastly, at the Pharmacie Centrale des Hôpitaux, a remarkable and indeed celebrated collection of faïences. Meanwhile, a label has been attached to each of these objects indicating its origin, and the directors of the different hospitals owning them are charged with their scrupulous preservation.

*The Mutual Medical Association.*

Since 1886 at Paris there has existed under this name an interesting association of medical men for insurance against sickness. A subscription of 10 francs a month gives the right to an indemnity of 10 francs per diem to those members who are ill and unable to follow their profession. This society is to all appearances very prosperous, for at the present time it has a reserve capital of 781,589 francs. Since its foundation it has disbursed 691,194 francs to its members. The number of members is 841, and the annual receipts of the society from members' subscriptions and interest on capital amount to 130,688 francs. Nevertheless, the directors raised the alarm at the last general meeting. Though the state of the finances is still prosperous the disbursements are increasing at a greater rate than the receipts. For one reason, the oldest members are gradually reaching the age when sickness and infirmity most beset them, and apart from this natural phenomenon there is another more serious—i.e., the tendency of many members to count as illnesses entitling them to indemnity chronic conditions, periods of fatigue in which they desire to take a rest, and even old age. Some members,

for instance, declare themselves martyrs to one of the innumerable infirmities of advancing years, and considering this a sufficient professional incapacity, sell their practice and retire to the country, counting on the annual allowance of 3600 francs which the association is bound to pay to them. Certainly against such methods no insurance budget could hold out. Already the association has decided to abolish sick pay during the first week of illness, in order to eliminate trifling passing ailments, which represent a large portion of the expenses and entail much laborious verification. Furthermore, the age-limit for entrance into the association has been fixed at 35 years, and the candidate has to undergo a strict medical examination. He must give his word of honour that he has never had syphilis, so that any complaint traceable to syphilis which may subsequently appear will disqualify him for indemnity. In spite of these precautions there is great uneasiness. Since it is only by a careful examination of the facts of each particular case that it is possible to decide whether there has been abuse or not, and there is no possibility of establishing a general rule, the management demanded at the last meeting that after impartial examination of each case absolute power should be conferred on it to admit or reject claims based on chronic conditions. A lively discussion took place on this proposition, and a vote of confidence was only accorded after heated arguments. Further discussions may be anticipated next year. The association will inevitably be forced to raise the terms of its subscription to an amount approaching that of the insurance companies, which is five or six times its present rate.

*A Medical Author's Responsibility.*

The Tribunal de la Seine has just delivered a sentence which creates a new juridical doctrine in the matter of medical responsibility. A working woman, seeing her husband come home drunk, was seized with the idea of copying from a work of popular domestic medicine a recipe recommended for dispelling the effects of intoxication. Armed with this copy she betook herself to a chemist, who made up the potion; the patient died immediately after absorbing it, and the wife sued the chemist and the author of the book for damages. The writer is a Parisian doctor, who under a *nom de plume* published the treatise some time ago in Belgium, where it had a great success. Later the publisher undertook to reprint it in France, without thinking it necessary that the doctor should revise the proofs. The recipe of the potion in the original edition contained 15 drops (gouttes) of ammonia, but in the reprint a printer's error had changed the dose from 15 drops to 15 grammes—hence the fatal result. The chemist is evidently the chief person to be blamed for having delivered the potion without a signed prescription from a doctor, and also for a still graver fault in not having remarked the flagrant mistake contained in the recipe. However, the tribunal condemned the doctor and the chemist equally, the doctor as responsible for the printer's error, and guilty of not having revised his proofs. The doctor had thus to halve with the chemist a fine of 1000 francs and a pension of 500 francs to be paid annually to each of the children of the deceased until their majority, in addition to three months' imprisonment with application of the French law of deferred sentences for homicide by imprudence. This sentence will be appealed against. The chemist violated a precise and formal law in delivering the mixture without the legal sanction of a prescription with a doctor's signature. No engraved or printed stamp is permissible, and the chemist is bound to refuse to make up prescriptions not signed by hand. There is, however, one advantage in the attitude which this unexpected judgment reveals in the magistrate, and this is the identification of a formula printed in a publication, with a recipe for which the author is responsible. French medical men have long protested against the publication in ordinary newspapers of medical articles containing advice to sufferers and frequently indications for the treatment of illness. These are often a mere cover for pharmaceutical advertisements and cause much injury to the profession. They are generally written under a fictitious name, veiling the absence of a diploma and right to practise medicine in their author. To put an end to these dangerous practices doctors have tried in vain to influence the editors of papers, but the profits are too good. It has been suggested that these pseudo-medical articles should be regarded as medical consultations, and their authors denounced for unqualified practice in violation of the law. It is true that the newspapers might resort to the expedient of having the articles signed by qualified practitioners, but these would incur the contempt of all their colleagues.

*Medical Protest against a Theatrical Representation.*

During the last month a theatre, le Grand Guignol, has been playing a one-act piece, conceived in the bitter and violent style which is a speciality of its boards. The piece, entitled *Dichotomy*, has for protagonists certain unworthy physicians who employ an equally unworthy surgeon to perform an unnecessary operation, for which they gain half the stipulated fee, at the price, however, of the patient's life. Parisian medical men have repeatedly protested that the putting on the stage of such pictures before prejudiced spectators, over-inclined to generalise from a particular case, constitutes a serious wrong to the profession. As no notice has been taken of these protests, the 30 medical men whose duty it is, one each nightly, to undertake the medical service of le Grand Guignol have handed in collectively their resignation. On April 10th the Society of Theatre Doctors voted congratulations to their colleagues, and organised a boycott of the theatre by forbidding its members to accept any medical appointment in place of those who have resigned. As the police regulations forbid theatrical performances unless a medical service is assured, the manager will probably be obliged to withdraw this piece.

*Medical Art Exhibition.*

The Doctors' Art Exhibition has just closed its doors after having earned a very honourable success. No works were admitted save those by medical men. Several of them displayed real talent. Among the most remarkable were the paintings and water-colour drawings of Dr. Bezançon and Dr. Labbé, both professors-substitute of the Faculty of Paris and medical officers of the Hôpital de la Charité, of Dr. Charnaux, Dr. Villandre, Dr. Jumon, Dr. Chevallereau, Dr. Progier, Dr. Gaston Bernard, Dr. Colin, Dr. Manceau, Dr. Polak, Dr. Deherain, and Dr. Ferrand. I must add the statuettes of Dr. Sabouraud, the dermatologist of Hôpital St. Louis, and the ornaments wrought in horn by Dr. Lucas.

*Increase in the Number of Women Doctors.*

During the year 1910 the Medical Faculty of Paris has conferred the degree of M.D. on 31 female students of medicine, 11 Frenchwomen and 20 foreigners.

*Congresses.*

The French Congress of Physiotherapy was opened on April 18th at the Faculty of Medicine, under the presidency of Dr. Béclère. The French Congress of Oto-rhino-laryngology will meet at Paris from May 8th to 11th at the Hôtel des Sociétés Savantes. The subjects set down for discussion are Complications of Adenotomy and Post-operative Complications of Frontal Sinuses.

May 1st.

## BERLIN.

(FROM OUR OWN CORRESPONDENT.)

*Inadequate Supply of Candidates for the Army Medical Corps.*

THE younger members of the medical profession in Germany are not as a general rule inclined to enter the Army Medical Corps, and the undoubted advantages which a medical man may obtain through holding a commission in the army are not sufficiently appreciated; the result is that candidates are not numerous and there is some difficulty in filling the vacancies which arise in the ordinary course of events. The medical officers of the army have for the most part received their professional education in the Army Medical School, and for each year of gratuitous instruction in that establishment they are required to serve two years in the army; some of them, however, but these are a minority, study as civilians and afterwards join the Army Medical Corps. The civilians who become medical officers on active service are continually diminishing in number, so that many appointments which would properly be given to medical officers on active service in the junior grades have to be filled by civilians accomplishing their half-year of compulsory military service. Dr. Körting of Berlin, a retired surgeon-general,

has published an article in the *Deutsche Medizinische Wochenschrift*, calling attention to the causes which he considers to be responsible for this state of things. He says that the remuneration of the junior grades (Assistentarzt and Oberarzt) is insufficient to attract young medical men, and that an army medical officer cannot live on his pay until he has attained the rank of Stabsarzt, for which it is necessary to have seven years' service. As a matter of fact, it is almost exclusively in the junior grades that there is a difficulty in filling the vacancies. The financial question is, however, not the only cause of the dearth of candidates. There is, for instance, among medical men a feeling of personal independence which is not altogether compatible with the requirements of military discipline. It must also be admitted that the present conditions of military service make it more and more difficult for army medical officers to engage in private practice, because the troops are now more than formerly for a great part of the year not stationed in garrison towns, but live in camps and are engaged in manœuvres. The medical officers must, of course, accompany them on these occasions, and are, moreover, often sent out of town either to examine recruits or to attend post-graduate courses of instruction. For these various reasons they are so much away from home that patients are led to consult other practitioners. The monotony of practice in many garrison towns, especially in the smaller ones, also induces many medical officers to leave the service. This is especially the case with those officers who have held appointments in hospitals or university clinics. Dr. Körting states with absolute correctness that it was very difficult to make the arrangement by which certain assistantships in hospitals and clinics should be reserved for army medical officers exclusively. This was done for the sole purpose of providing the army with trained specialists, but the effect has been the very opposite of what was intended, because it is found that the officers who have been trained as specialists at the expense of the army medical department leave the service and settle as specialists in the towns. He therefore suggests that further restrictions should be introduced, and that the specialists in question should not be allowed to resign until they have served in the army an additional couple of years after the end of their assistantship. Dr. Körting also mentions that the medical officers complain that with respect to position and privileges they are at a disadvantage as compared with regimental officers of equivalent rank, and he concludes by saying that a difficulty in filling vacancies in the Army Medical Corps is experienced in other countries as well as in Germany.

*The Value of Leucocytosis as a Diagnostic Indication.*

The value of leucocytosis as an aid in the diagnosis and prognosis of inflammatory and infectious diseases was recently discussed at some length in the Verein für Innere Medicin, papers on this subject being read by a surgeon, a physician, and an obstetrician. Professor Sonnenburg said that leucocytosis was a biological reaction of the organism against the exciting causes of diseases and against their toxins, and that it was as regular in its operation as any other law of nature. Leucocytosis was an index of the degree and the virulence of an infection and the toxicity of an inflammation; it gave notice of their decrease or increase as the case might be during the course of a disease; it showed the extent of the patient's power of resistance and supplied valuable hints for treatment. Working in conjunction with Professor Nägeli he had found that in slight cases the leucocytosis had a duration of only one or two days and then disappeared simultaneously with the amelioration of all symptoms. In severe cases the initial blood count showed from 20,000 to 30,000 leucocytes per cubic millimetre, while in very toxic cases the number of leucocytes was at first enormously increased, but afterwards became normal or even subnormal because of the toxic paralysis of the function of the bone marrow; the decrease of the leucocytes in patients having a high temperature and a rapid pulse was a very bad symptom. The number of the leucocytes was normal when an abscess was formed and encapsuled, but an extension of the suppuration was made manifest at once by an increase of them even when the temperature had not yet altered. Leucocytosis was present in every inflammatory disease, and was especially found in inflammatory affections of the peritoneum, where the reaction against inflammation was more marked than in others organs. It had an important practical value for the diagnosis and prognosis of appendicitis. The more virulent the infection and the toxicity were, the sooner did the leucocytosis appear, and the gradual progression of the infection from the appendix to the peritoneum might also be recognised by an examination of the blood. By means of the leucocyte test severe and slight cases might be distinguished, and inferences might be drawn as to the necessity for an operation. The differential diagnosis between colitis and appendicitis was made easier by this test, the peritoneum being rather seldom affected in that disease; and its indications were equally useful with respect to cases of gall-stones and enteric fever. Professor Grawitz said that he did not agree with Professor Sonnenburg as to the diagnostic value of leucocytosis. Physiological leucocytosis was present during the digestion of albuminous food, was caused also by muscular strain, and was therefore found in normal labour as a sequel to the contractions of the uterus. In the group of infectious diseases leucocytosis was produced when hæmolytic toxins were present, especially in septic affections caused by pyogenic micrococci, and this was the case even when the local inflammation was small. But other cases of suppuration did not as a rule produce leucocytosis. Leucocytosis occurred in dysentery but not in enteric fever, notwithstanding the presence in the latter disease of an extensive inflammation of the mesenteric glands. Diseases producing leucocytosis were pneumonia, scarlet fever, variola in the stage of suppuration, syphilis, abscess of the liver, and abscess of the brain. In meningitis leucocytosis was present in cases caused by pneumococci or staphylococci, but not always in cases caused by the Weichselbaum micrococcus. In tuberculous meningitis or in tuberculosis of the lungs leucocytosis occurred only in the later stages of the disease, when a mixed infection due to pyogenic micrococci had been established. Unlike the above diseases, morbilli and influenza, notwithstanding their infectiousness, did not show leucocytosis. Professor Grawitz considered that great caution was necessary in the employment of leucocytosis for diagnostic purposes, but it might serve to determine whether any inflammatory process was present, and it might assist in making differential diagnoses. It was not possible to gauge the vital energy of the organism by the leucocyte reaction. Professor Franz, speaking as a gynæcologist, described some observations made in his clinic at Jena on women who were operated on and in whom leucocytosis was found when the peritoneum was interfered with, as for instance in breaking down adhesions, or when it became irritated in other operations of longer duration. The symptom was present in pelvic peritonitis arising from the ovaries as well as in inflammatory growths of the uterine adnexa depending on gonorrhœa, tuberculous or septic infection, and in extra-uterine pregnancy. In his opinion its diagnostic value was small as compared with the results of palpation and other direct methods, especially as there might be well-marked leucocytosis not only in suppuration but also in profuse hæmorrhage after a ruptured extra-uterine pregnancy. An exploratory puncture gave more reliable results than the leucocyte test. In cases of puerperal fever some observers had tried to arrive at a prognosis from the quality of the leucocytes, the number of eosinophile and neutrophile cells, but apart from the theoretical value of these findings the processes in question were very complicated and required so much time that they could not be used in clinical practice. The author concluded that in gynæcology and obstetrics a leucocyte count was of little value as a means of diagnosis or prognosis.

May 1st.

## BUDAPEST.

(FROM OUR OWN CORRESPONDENT.)

*Gout in Hungary.*

ACCORDING to Dr. Edward Weiss, physician at the baths at Pöstyén, gout is much more frequent in this country than has been thought, and the number of cases is not far behind that in England, which is supposed by us to be the home of gout. A comparison of the number of cases of gout which have been under treatment at Pöstyén in the last 15 years with the number of sufferers at Bath for the same period shows how these figures compare with each other. While with us it would be thought that gout was three

or four times as common in England as it is here, there were really only two cases under treatment at Bath for every case at Pöstyén. In Hungary people acquire their gout by abuse of alcohol rather than inherit it.

*On the Misuse of Hydrotherapeutic Measures.*

At the recent balneological meeting at Budapest Dr. Dalmady stated his belief that the mistakes in the application of hydrotherapeutic measures are the main reason why those measures have not been more favourably received by the medical profession. He sums up the necessary requirements as follows: (1) A careful analysis of any deviations from the normal in the organs or their functions—i.e., a careful clinical history; (2) a knowledge of the physiological action of thermal and mechanical stimuli; and (3) a thorough familiarity with technique. In febrile diseases the choice of the temperature of the water should depend upon its action on nerves, vessels, and tissues; and it may be a great mistake to use, at the beginning of the treatment, water at a very low temperature applied for a short time only and accompanied by only a slight amount of mechanical stimulation. In cases of collapse and cardiac weakness, with a high temperature and cold extremities, it is necessary to apply cold to the trunk; but Dr. Dalmady advises that the extremities should be warmed by rubbing with hot alcohol (first advised by Winternitz) or by the application of hot packs.

*Education of the Profession in the Early Recognition of Tuberculosis.*

At a recent meeting of the National Association for the Prevention of Tuberculosis Dr. Desider Kuthy read a paper on the above subject. This is quite as important, he said, as the other phases of the tuberculosis problem. Far from being easy, early diagnosis is extremely difficult. The profession in Hungary has not always recognised this fact. The education must begin with the medical students, who should be taught to recognise incipient cases. Unfortunately, the whole problem of the teaching of infectious diseases is complicated by the practical difficulty of providing cases for the observation of the student. He thought that there should be a tuberculosis dispensary in connexion with every large hospital for the sake of its educational value, and district nurses should be supplied to visit the patients at their homes.

April 28th.

## NOTES FROM SOUTH AFRICA.

(FROM OUR OWN CORRESPONDENT.)

*Hospitals and the Insane.*

IN the new Prison and Convict Station Bill, which has just been steered through Parliament by the Minister for Justice, it is provided that "no person shall be received at any gaol by reason only that he is alleged to be a lunatic, if there be a lunatic asylum or public hospital (other than a hospital used exclusively as an infectious diseases hospital) in the district in which the gaol is situate." This provision led to a long discussion in the House of Assembly, which was generally in the direction of deprecating the use of hospitals as places of temporary refuge for persons certified as insane for whom room cannot be found at asylums. In South Africa, owing to the immense distances and scattered population, it has hitherto been necessary to receive temporarily into the gaol hospitals many insane patients pending arrangements being made for their reception into asylums. Owing to insufficient asylum accommodation, patients—even those suffering from grave forms of insanity—have frequently had to be detained a considerable time in gaol pending removal, months occasionally lapsing before room can be found in an asylum. This has been a chronic evil, and if the new law were likely to remedy it great good would result. But it would seem likely that the immediate effect may be very different. Of course, most outlying districts are not equipped with public hospitals, and in these there will be no change, but in those districts where there are public hospitals and no asylums the dealing with certified lunatics pending removal to an asylum will be a matter of difficulty, at any rate in the immediate future. The hospitals with but few exceptions are not equipped for dealing with cases of lunacy other than those capable of being received into general wards. Though receiving varying subsidies from the provincial administrations, the hospitals depend with few exceptions very largely on public subscriptions for their upkeep, and are administered by local committees of management elected by subscribers from amongst themselves. These committees are practically autonomous bodies and are not under any special Government control. They will be certain to refuse to admit any noisy or violent cases of lunacy, or indeed any but properly selected cases, at least until the Government provides the hospitals with additional buildings and equipment. It is likely to be a problem for the magistrates of these districts to find temporary accommodation for any unfortunate lunatic refused admission to a hospital, because the law no longer allows the gaol hospital to be available. Medical opinion is generally with the Minister in thinking that the insane are more likely to be properly cared for in a general hospital—given proper buildings and equipment—than in a gaol hospital, but in many ways it would have been preferable if the law had been amended so as to provide definitely that the public hospital in any district should receive all certified patients from such district, pending their removal to an asylum—to take effect after a specified date, so as to have given local committees of management the opportunity of providing facilities for their reception. It is, however, sincerely to be hoped that the Union Government will forthwith provide sufficient accommodation at the asylums and thus endeavour to avoid the scandals of the past.

*Miners' Phthisis Legislation.*

A Bill to provide for and regulate the liability of mine employers to make compensation to certain of their workmen who contract miners' phthisis has been introduced into the House of Assembly by the Minister for the Interior. Under this Bill it is proposed that any miner, who within two years after the commencement of the Act proves that he has contracted miners' phthisis, and that he has been employed on underground work for a period or periods amounting to two years at any time prior to the date of his claim, shall be entitled to be paid compensation as follows: (1) If suffering from miners' phthisis only, £250; (2) if suffering from tuberculosis of the lungs in conjunction with miners' phthisis, £500. The compensation is to be recoverable from the person who was the miner's employer at the date of the claim, or his last employer. The employer from whom compensation is recoverable is to have the right to recover one-half from the Government and "from every other employer, who during the period of two years has employed the miner upon underground work, such proportionate part of the other half of the said sum as the length of time during which the miner was employed upon underground work by that other employer bears to a period of two years." Any miner, not entitled to compensation as above provided, who claims compensation and proves that he has contracted miners' phthisis, and has been employed upon underground work for a period or periods amounting to two years prior to the date of the claim, and that the last date of his employment upon underground work is not more than two years prior to the date of the claim, is to be entitled as compensation to £375, provided that if, regard being had to the date of the claim and the proved extent of the disease, it appears to the medical practitioners giving any certificate, or, where the decision of a medical referee is required, to the medical referee, that the miner was affected with miners' phthisis prior to the commencement of this Act, the case shall be treated as one in which a sum of £250 only is payable as compensation, and the employer liable to pay the compensation shall have similar rights of recovery against the Government and other employers as is above provided. In any case compensation is to be paid by the miner's employer at the date of the claim, or if no longer employed upon underground work by the employer who last employed him upon underground work, and the said employer may similarly recover from every other employer who, during the period of two years aforesaid has employed the miner upon underground work, "such proportionate part as the length of time during which the miner was employed upon underground work by that other employer bears to a period of two years." Only certificates of certain medical men to be prescribed by the Minister will be accepted, while in the event of dispute the certificate of the medical referee,

also to be appointed by the Minister, will be final. A miner desiring to claim compensation has to transmit his claim to his employer or last employer, together with a certificate from one of the approved medical men, and a statement containing the name and address of every other employer by whom the miner has, during the period of two years, been employed upon underground work. The employer to whom the claim has been so transmitted may within seven days after its receipt require the miner to submit to medical examination by a medical practitioner named by the employer from the list of approved practitioners. In the event of disagreement the miner may submit himself to the medical referee for examination. If the employer does not within the time prescribed require the miner to submit to medical examination, or if the medical referee decides that the miner is suffering as aforesaid, the employer to whom the claim was transmitted shall, within one month after receipt of the claim or of the medical referee's decision, pay to the miner the compensation due to him, or if he fails so to pay he can be compelled so to do by summary jurisdiction in the magistrates' court. Apart from the very objectionable principle involved of setting up a caste of practitioners alone entitled to issue certificates, the Bill is bristling with absurdities and clearly demonstrates the need for a properly organised health department to furnish the Minister responsible with expert advice before he brings in medical legislation. Miners' phthisis is defined in the Bill as a disease of the lungs known as fibrosis or silicosis, and apparently the compensation clauses will be operative even if the fibrosis is due to some cause other than underground working conditions. The difficulty of differentiating between fibrosis and fibrosis with superadded tubercle in certain cases is evidently not considered of importance, nor the fact that in many cases it is impossible to state when the disease commenced. The principle underlying the Bill is wrong, inasmuch as it is apparently assumed that the condition must make its appearance within a period of two years after exposure to underground work, and it consequently contemplates, as more stringent conditions are being imposed on mine-owners and miners under the new mining law, that the liability of the State should practically cease in the case of claims submitted after two years. It might as well be argued that owing to the effect of putting mine workings in a better sanitary state the necessity for providing compensation at all after two years should not exist. No provision is made to enable an objection to be raised against any claim by other than the last employer, and even the latter, as the Bill is at present worded, may be called upon to pay more than his fair share of compensation as compared with the other employers who will be liable to refund. The Bill, when introduced, met with a hostile reception, particularly from the members of the medical profession in Parliament, and it is to be hoped that the Government will let it drop, although any well-thought-out scheme under which the workers themselves contribute would be welcomed. Apart from the objections of the profession to the present Bill, it is felt that miners are an improvident class, and that it is quite likely that most of the moneys paid out in compensation would be quickly spent in canteens, on whippet-racing, or on the racecourse, and that probably it would be wiser to provide for the payment of annuities rather than lump sums as compensation.

*Medical Inspection of and Research into Diseases Prevalent in Mines.*

The Government has now called for applications for the post of medical inspector of mines, an appointment created in consequence of the recommendations in the report of the Transvaal Mines Commission. A large number of applications are stated to have been received. Considerable adverse comment has been occasioned by the appointment of a gentleman who qualified in 1905. The Chamber of Mines has recently arranged with the Government for Dr. J. C. Mitchell, Government bacteriologist to the Transvaal, to be seconded to undertake bacteriological research into pneumonia and other diseases specially affecting mine-workers. This is quite a step in the right direction, as a large and varied field for research is available which has hitherto practically been left untouched.

*Public Health Bill.*

Owing to the organised opposition of the profession to the proposed Public Health Bill it is probable that this will be dropped by the Government. If it had become law the Minister for the Interior would have taken over all the functions and duties of the medical officers of health of the various provinces, and in certain of the provinces would thereunder have been entitled to a seat on the medical council, besides receiving from local authorities details of all the cases of infectious diseases notified to them by practitioners. This matter was referred to at length in a leading article in THE LANCET of Sept. 17th, 1910, p. 897, on Public Health Administration in British South Africa.

*Immigration Bill.*

A very stringent Immigration Bill has been introduced into Parliament, and by the time this appears in print may have become law. It vests immigration officers with the most drastic powers, and is capable of much abuse. It is primarily aimed at keeping out Asiatics without making any definite provision in that respect, but enabling it to be done by administrative action. Amongst other drastic provisions the immigration officer will be enabled to prohibit any person who cannot write any piece of dictation to the satisfaction of the officer in any language selected by the officer. It also provides for the prohibition of any person suffering from an infectious or contagious disease, or any person who is "of a low type of the human species" (*sic*). It is hoped that the Bill will be modified so as to enable, for instance, such consumptive patients as are not likely to become a public charge to continue to come out to South Africa to be benefited by its glorious health-giving climate, but the Bill will probably be passed without very much modification.

*Anatomy Bill.*

This Bill has safely passed through the Senate, and it is hoped that it will be able to be passed through the Lower House before the close of the session, though owing to the congestion of public business it is greatly feared that this much-desired measure may be one which will be dropped out.

*Post-graduate Classes.*

A course of post-graduate classes has been arranged by the medical staff of the Johannesburg Hospital, to be held this month. This is quite an innovation in South Africa, and the effort will doubtless be welcomed. It would be most desirable if periodically at the larger centres a course of lectures and demonstrations such as this could be arranged so as to enable practitioners from the country, who seldom can visit Europe for the purpose of acquainting themselves with modern methods, to meet those who have the advantages of hospital practice by which they can keep in touch with any advance in the different branches of medical science.

April 10th.

## AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

*Victorian Board of Health.*

Dr. B. Burnett Ham, chairman of the Board of Health, in giving evidence before the Noxious Trades Board, stated in his opinion that the Board's powers were insufficient. He had laid down a scheme for a new Health Act, under which Victoria would be divided into a number of districts and each would have a whole-time health officer. The present central Board is elected by groups of municipalities, but it is understood that the new scheme proposes a board composed of well-paid expert members, all of whom shall be medical men.

*Friendly Societies' Hospital.*

A committee appointed in Victoria has recommended the establishment of a metropolitan hospital consisting of 50 beds at a capital cost of £7185 and an annual maintenance of £3915. The proposed charge to inmates (members of friendly societies only) would be 10*s.* per week. No suggestion has yet been made as to the medical attendance at such an institution, but a conference between the committee and a subcommittee of the Council of the British Medical Association (Victoria Branch) has been arranged. At present the best opinion regards the estimates of cost and upkeep as absurdly low. It is improbable that any proposal for a permanent medical staff will meet with professional approval, but it is thought that an intermediate hospital might be possible on some such lines as is proposed.

*Prahran Poisoning Case.*

Mention was made in this column on Feb. 4th of a peculiar poisoning case near Melbourne, in which a mother and two daughters died from symptoms thought to be due to ptomaines but afterwards proved to be arsenical poisoning. The third daughter, who was proved to have bought arsenic, was charged with the murder of her mother. At the trial the jury disagreed.

*Tuberculosis Conference.*

A conference of health officials from all States except Queensland (Dr. J. S. C. Elkington being otherwise engaged) met in Melbourne to discuss the tuberculosis question from a practical sanitary standpoint. It was resolved, amongst other matters, that the Health Department of the States should ask for legal power to enable officers to segregate dangerous consumptives. Power to detain these cases will be required, such power to be obtained through an order of a court. The patients' interests would be safeguarded by the right to apply for release from the segregation locality, an application which might be granted under certain pathological circumstances and under conditions regarding precautions. The conference also dealt with the question of the prohibition of oversea consumptives landing in Australia. It was resolved to recommend to the Commonwealth Government an extension of the present Act covering the examination of persons about to leave for Australia at the port of departure, and also giving power to keep in touch with consumptives after arrival in Australia. Commenting on these proposals the *Melbourne Argus* gave expression to the following remarks: "But such a segregation should be possible apart from the method of lodging a criminal in a penitentiary. Nor does the danger of infection from case to case call for such drastic proposals. At present every existing case infects less than one other victim. Even so minimal a personal danger as this may be controlled by the simplest measures of cleanliness. It has been truly remarked that the public misunderstand the danger of infection in phthisis, but it may also be said that such misunderstanding is not the fault of the public. The reality of infection has been pushed by sanitarians to the exclusion of every other consideration. As a matter of fact, if compulsory segregation is to become law it would be more effective if directed against predisposed family strains than against the actual sufferers." The last sentence will not find ready scientific endorsement.

*Phenomenal Rainfall.*

The present summer and autumn have been very wet throughout Australia generally. In Victoria no similar rainfall for the first three months of the year is on record. The average for six months is a little more than 12 in., and already more than 13 in. have been recorded in less than three months. Typhoid fever has been much less prevalent than usual at this period of the year, but diphtheria has shown an increase, and sporadic outbreaks have occurred in several places.

*Radium.*

Dr. L. P. Johnston of Sydney has returned to Australia with radium to the value of £4000, to purchase which he made a special visit to the continent. The radium belongs to the managers of the Sydney Hospital and will be used in its service. It is expected that Dr. Louis Wickham of Paris will visit Sydney this year and will make some suggestions as to the best means of employing the radium clinic.

April 1st.

# Obituary.

## SAMUEL KNAGGS, M.R.C.S. ENG., L.S.A.,

CONSULTING SURGEON, HUDDERSFIELD INFIRMARY.

Samuel Knaggs, whose death, at the age of 82, occurred on April 23rd, was born at Clapham, and began his professional career as an apprentice to a practitioner in Tooting. In 1850 he received his diplomas from the Royal College of Surgeons of England and the Apothecaries' Hall, having in the meantime completed his curriculum at Guy's. An original member of the Old Guyite Club, he was ever loyal to his old hospital, and sent to it two of his sons who entered the profession.

After qualification he was for a short time an assistant in Huntingdon, and about 59 years ago settled in Huddersfield. For 35 years he was one of the honorary surgeons to the Huddersfield Infirmary, and whilst for years he bore a lion's share of the work in the wards, operating theatre, and out-patient room, he took an active part in the administration and development of the institution. At the board meetings his sound judgment and ripe experience were highly valued. As a token of respect the infirmary flag was hoisted half-mast when his death became known. Mr. Knaggs had also filled the offices of Poor-law medical officer, surgeon to the borough police, and surgeon to the ragged and industrial school. He was a past president and on the council of the Yorkshire branch of the British Medical Association, and was twice president of the Huddersfield Medical Society, of which the members, to show their esteem for him, elected him an honorary member.

Mr. Knaggs gave up practice five years ago. Until joined for a short time by Mr. Lawford Knaggs, and afterwards by Mr. Frank Knaggs, he had conducted alone a large practice in Huddersfield and a wide area around it. Though he never took part in municipal affairs he was one of the best known men in Huddersfield. Philanthropic and social movements always had his support. It is due in great measure to him that the excellent district nursing institution was established on such efficient and satisfactory lines. In matters touching the welfare of medical men he was not infrequently the moving spirit and organiser. He had been chairman of the West Riding Medical Charitable Society, and both to it and the British Medical Benevolent Fund he was an almost life-long subscriber. Many other societies will miss the help his kind and generous nature gave them. Mr. Knaggs was an independent thinker, as was shown by his papers on sociology, on the criminal responsibility of the insane, and the position of homœopathy. When he had thrown off the cares of practice and was almost an octogenarian he published a warning against Socialism and a volume in support of the Christian religion. As the work of one on the verge of 80 years of age the latter is noteworthy. But it is more. It gives the key to his character, to the gentle kindness, the sterling integrity, the unfailing courtesy, and the bright geniality which marked him even in old age. Without either ostentation or display the late Mr. Knaggs was a sincerely religious man.

Mr. Knaggs leaves four sons, of whom two are in the medical profession—Mr. Lawford Knaggs, professor of surgery at the Leeds University, and Mr. Frank Knaggs, ophthalmic surgeon to the Huddersfield Infirmary. Mrs. Knaggs predeceased her husband a few years ago. Mr. Knaggs was buried at the Huddersfield cemetery on April 26th, when a representative attendance of his professional brethren and townsmen was present to show respect to his memory.

# Medical News.

ROYAL COLLEGES OF PHYSICIANS AND SURGEONS OF EDINBURGH AND ROYAL FACULTY OF PHYSICIANS AND SURGEONS OF GLASGOW.—At the recent examinations in Glasgow the following candidates passed their respective examinations:—

*First Professional Examination.*—Francis Halden, Robert M'Gregor, and John Walker.

*Second Professional Examination.*—John Francis Bourke, Roland John Croxford, Joseph Vincent Duffy, William Cowan Holburn, Violet Millicent Tracey, and William Neville Pennant Williams.

*Third Professional Examination.*—Chuni Lal Bhatia, Diwan Jai Chand, Joseph Moses Coplans, George Agincourt Hodges, Rona Lockhart, Frederick Richard Lucas, Tonur Sekharan Nair, John Scott, Balwant Singh, and Kul Want.

*Final Examination.*—Alfred Benjamin Bateman, Framroz Limji Bhajlwalla, Bhalchandra Shivram Bhandarkar, Dhunjiboy Bomanji Cama, Rastamji Ratanji Dadina, David Lindsay Hutton, James M'Cusker, James M'Manus, George da Silva, John Arthur Smith, and Hugh Francis Williams.

CROWNHILL CONVALESCENT HOME, PLYMOUTH.—The annual meeting of the subscribers of the Crownhill Convalescent Home was held on April 27th. The medical report stated that 338 patients had been admitted during the year. The financial statement showed a deficit of £26. Dr. C. A. Hingston was re-elected honorary consulting physician, and Dr. Bertram Soltau honorary physician.

A grant of £6000 has been made by the Drapers' Company to the Battersea Polytechnic for the erection and equipment of a department of physiology and hygiene, which will include lecture-theatre, class-rooms, and laboratories suitable for courses of systematic popular instruction.

ROYAL [DEVON AND EXETER HOSPITAL.—At a quarterly meeting of the subscribers of the Royal Devon and Exeter Hospital, held recently, it was reported that at the end of March last the institution had a favourable balance of £597. For the corresponding period of 1910 the adverse balance amounted to £1112.

MEDICAL SICKNESS AND ACCIDENT SOCIETY.—The usual monthly meeting of the executive committee of the Medical Sickness, Annuity, and Life Assurance Society was held at 429, Strand, London, W.C., on April 21st. There were present: Dr. F. de Havilland Hall (in the chair), Dr. Frederick S. Palmer, Dr. M. G. Biggs, Mr. J. Brindley-James, Dr. H. A. Sansom, Dr. F. J. Allan, Dr. F. C. Martley, Mr. E. Bartlett, Dr. M. Greenwood, Dr. J. W. Hunt, Dr. J. Pickett, and Dr. J. B. Ball. The draft of the report and balance sheet for 1910, which will be presented to the members at the annual general meeting to be held at the rooms of the Medical Society of London on May 18th at 4.30, was discussed and agreed to. They show that the business during the last year has been exceptionally good, and has produced a considerable addition to the already large financial reserves of the society. The records of the business for the early part of this year are also very good, and in particular the number of new entrants has been greater than in any previous equal period of the society's working. Prospectuses and all further particulars may be obtained on application to Mr. F. Addiscott, secretary, Medical Sickness and Accident Society, 33, Chancery-lane, London, W.C.

CENTRAL MIDWIVES BOARD.—A meeting of the Central Midwives Board was held at Caxton House, Westminster, on April 27th, with Sir Francis H. Champneys in the chair. A letter was considered from the clerk of the Privy Council as to whether a midwife guilty of a breach of the rules of the Board when acting as a maternity nurse under the direction of a qualified medical practitioner is amenable to the jurisdiction of the Board. It was decided "that the Board pass the following resolution: The Board does not consider that the midwife under the circumstances was amenable to Rules E." A letter was considered from the clerk of the Privy Council transmitting for the observations of the Board a copy of a letter addressed to the President of the Local Government Board by an applicant whom the Board had refused to certify under Rule B.2. The Board decided that the clerk of the Privy Council be informed that the application was carefully considered by the Board, who, for reasons appearing to be sufficient, came to the conclusion that it would be inadvisable that the applicant should be granted a certificate. A letter was considered from the clerk of the Privy Council transmitting a copy of a letter from the Devon County Council in regard to the suggestion of the Board that Section 1 (2) of the Midwives Act, 1902, should be amended by the deletion of the words "habitually and for gain." The Board directed that the secretary do communicate to the clerk of the Privy Council a list of those local supervising authorities who have concurred with the Board's suggestion for the amendment of Section 1 (2) of the Midwives Act, 1902, by the deletion of the words "habitually and for gain." A letter was considered from the Director of Public Prosecutions informing the Board that a certain woman whose name was removed from the midwives roll on July 12th, 1906, had been convicted of manslaughter at the Central Criminal Court on March 30th and had been sentenced to four months' imprisonment with hard labour. The Board directed that the communication of the Director of Public Prosecutions be acknowledged with thanks. A letter was considered from the clerk of the Derbyshire county council inquiring whether the Board would be prepared to defray the expenses of an appeal from the Chesterfield justices who had held that attendance otherwise than at the actual time of birth was not attendance "in childbirth." It was decided that the Board do approve the reply of the secretary, pointing out that the power and duty of taking proceedings under Section 1 (2) of the Midwives Act, 1902, is conferred on the local supervising authority by Section 13 of the Act, and that correlatively the duty of bearing the "expenses of any such prosecution" is imposed on the authority.

THE SOUTH AFRICAN CIVIL SURGEONS' DINNER.—Mr. C. Gordon Watson informs us that the dinner announced in THE LANCET last week for Thursday, June 1st, at 7.45 P.M., will be held at the Criterion Restaurant on that date, and not at the Imperial Restaurant as previously stated.

FALMOUTH HOSPITAL.—On April 19th the Princess Alexander of Teck laid the foundation stone of the new operating theatre which is being added to the Falmouth Hospital as a local memorial to the late King. The committee appealed for a sum of £500 for the building, and in a short time £550 were raised.

HOSPITAL FOR SICK CHILDREN, GREAT ORMOND-STREET, W.C.—The summer session of lectures at this hospital will be opened on Thursday next, May 11th, by Mr. H. Stansfield Collier, who will lecture on the Diagnosis of the Surgical Abdominal Diseases of Childhood. On May 18th Dr. Latten will give a Demonstration of Selected Medical Cases. The lectures are given at the hospital on Thursdays at 4 P.M., and are open free to all medical practitioners. Further information will be given by Dr. A. F. Voelcker, Dean of the Medical School of the hospital.

PRESENTATIONS TO MEDICAL MEN.—On April 27th, at a largely attended meeting of the Irish Division of the Medico-Psychological Association, held at the Richmond Asylum, Dublin, Dr. W. R. Dawson was the recipient of a handsome presentation from the members of the division on his resignation, owing to his recent appointment as inspector of lunatics, of the divisional honorary secretaryship, which he had held for the past nine years. The presentation, which was made in suitable terms by Dr. T. Drapes, President-elect of the Association, consisted of a silver salver and a large silver-mounted ivory paper-knife, the former bearing the following inscription: "Presented to W. R. Dawson, Esq., M.D., F.R.C.P.I., by the Members of the Irish Division of the Medico-Psychological Association of Great Britain and Ireland in recognition of his valuable services as Divisional Hon. Secretary 1902–1911." In the evening many of the members were entertained by Dr. Dawson at a farewell dinner at the Shelbourne Hotel.—At the recent annual distribution of prizes and certificates to the members of the St. John Ambulance class, Yeovil, in connexion with the employees of the London and South Western Railway Company, Mr. Harold Robert Unwin, M.B., B.C. Cantab., F.R.C.S. Eng., L.R.C.P. Lond., was presented with a silver-framed calendar in appreciation of his services as honorary instructor.

# Parliamentary Intelligence.

## HOUSE OF COMMONS.

THURSDAY, APRIL 27TH.

*Gun Deafness in the Navy.*

Mr. FITZ ROY asked the First Lord of the Admiralty whether he was aware that although gun deafness did not cause many cases of invalidity from the Navy, there were many cases of officers and men whose hearing had been impaired from this cause; whether he was aware that the use of cotton-wool as a preventive was considered by the medical profession to be of little use; whether he was aware that a mixture of plasticine and cotton-wool was recommended by the Home Office in workshops and factories where noise deafness was prevalent; and whether he would see that similar material was issued by the Admiralty for use on board ship by officers and men.—Mr. MCKENNA answered: I am aware that there are many cases of officers and men whose hearing has been impaired for the reason given without resulting in their being invalided from the Navy. Tests have been carried out upon various preventives, but opinions differ very widely as to their relative efficiency. An ear paste is already prepared and is issued when demanded.

*Alleged Shortage of Medical Staff at Parkhurst Barracks.*

Mr. PHILIP FOSTER asked the Under Secretary of State for War whether his attention had been called to the case of suicide of Sergeant Stokes, R.A.M.C., dispenser at Parkhurst Barracks; and, taking into consideration the fact that complaints had already been made on account of the shortage in the medical staff there, he would cause an inquiry to be made into the circumstances.—Mr. ACLAND (Financial Secretary to the War Office) answered: I will reply at the same time to this and other questions on the same subject. No information on this case beyond what has appeared in the public press has yet reached the War Office, but orders have already been issued to the general officer commanding-in-chief for a searching inquiry. There was a suicide at Parkhurst on August 29th last, which

was clearly a case of insanity and was not apparently due in any way to over work. The hospital is equipped for 25 beds with a *personnel* of one officer and eight non-commissioned officers and men. The average constantly sick for the last six months was from nine to ten and during March was 15; but in the latter month the ailments were mostly slight. No demand for an increase of *personnel* for this station has reached the War Office.

*Royal Army Medical Corps.*

Mr. SANDYS asked the Financial Secretary to the War Office whether the strength of the Royal Army Medical Corps had been reduced by 488 since 1906.—Mr. ACLAND answered: The establishment of the Royal Army Medical Corps, warrant officers, non-commissioned officers, and men in 1906 was 4189, and the present establishment is 3947, showing a decrease of 242. Of these, 190 were men specially enlisted for one year in 1906 to augment the reserve, and 38 were reduced from South Africa in 1907, leaving a balance of 14 for reduction in various stations since 1906.

*The Administration of the Poor-law.*

On the motion to go into committee on Civil Service Estimates,

Mr. GOLDSTONE called attention to the administration of the Poor-law, and moved, "That this House endorses the unanimous condemnation of the administration of the Poor-law contained in the Majority and Minority reports of the recent Royal Commission, and is of opinion that the present administration of the Poor-law does not meet modern requirements and demands the immediate attention of His Majesty's Government." The honourable Member in the course of his speech referred to the questions of children and the Poor-law, of general mixed workhouses, and of public health. In the region of public health overlapping was rampant. There was the public health service under the control and direction of the medical officer of health. Then there was the Poor-law hospital, and, again, the local education authority, doing a magnificent work in medical inspection, in the feeding of necessitous school children, and now taking a lead in setting up school clinics. But the result was that there was a great deal of overlapping in authorities and a great deal of inefficiency due to people escaping the attention of one or other of the authorities. Disease thus passed unnoticed and spread amongst the populace. This was the case particularly with reference to consumption. When it was remembered that one-seventh of the pauperism of this country was due to consumption, the House must realise that overlapping ought to cease at the earliest possible moment. There was a lack of uniformity as between the central authority and the three different authorities, and again as amongst the three different authorities. Another matter which should engage attention was maternity cases where a medical man was not called in except as a last resort, because the husband realised that the guardians might take steps to secure the cost of the medical attendance from him. Loss of life and disease resulted, because there was the punitive element in the Poor-law administration instead of a helpful preventive influence being the greatest force behind it.

Mr. LANSBURY in the course of his speech directed the attention of the House to the reports made by Dr. McVail and Dr. Parsons for the Poor-law Commission. Both of them reported that the real blot on the medical service of the Poor-law was not that it was not an able and devoted service, but that the principle on which Poor-law relief was applied was such that people waited to come for it until the last point had been reached. Something had been said about childbirth. Many investigators reported that in very many instances the child was born a cripple, and was therefore a burden upon society for life. It was not economy to say to an expectant mother, "We will not give you the assistance you need unless you come to us as a pauper and enter our building."

In the course of the subsequent debate,

Dr. ADDISON referred to the treatment of consumption under the Poor-law. A father of a family contracting the disease did not, under present circumstances, leave off work if he could avoid it. He became worse and worse, infecting his whole house in the meantime. Such a man should be treated as early as possible.

Dr. ESMONDE called attention to the question of the administration of the Poor-law in relation to the medical profession. There were a great many places in England where the salary which was paid to the Poor-law medical officer was totally inadequate to the amount of work which had to be done. He thought that the most important thing perhaps that the Poor-law had to deal with was the question of medical relief. The present system of medical relief was absolutely wrong. It was niggardly. Medical men were not paid for their medicines, and the result was that the cost had to be paid out of their meagre salaries.

Mr. STEEL-MAITLAND thought that the time had come when a really comprehensive measure dealing with Poor-law problems should be laid before Parliament.

Mr. BURNS said (in the course of a long speech in reply to the debate) that several speakers had spoken as if the Local Government Board could and should at once remove pauperism, and also poverty from which pauperism sprang. A great many of the social disabilities would not be removed by any legislative enactment. Only one single charge of commission had been raised against the department in the course of the debate, and that was in regard to Poor-law medical officers. Since his presidency began he had sought to improve the salaries and emoluments of these medical officers and to improve their capacities and opportunities to help the sick poor. If all that the honourable Member (Dr. Esmonde) said about Poor-law appointments were true—namely, as to harshness of treatment and poverty of allowance by boards of guardians—there would not be the almost indecent rush that there was on the part of medical men to come within the area of his (Mr. Burns's) benevolent despotism. The right honourable gentleman went on to deal with tuberculosis. He had made it a notifiable disease. Eighteen months ago he thought that the 35 per cent. of the total consumption which was dealt with in Poor-law administration ought to be made notifiable, and it was so made 18 months ago. The effect of it had been reflected in a considerable diminution of consumption, due to the fact that that notification set in motion causes the result of which was that immediately a phthisical patient in a workhouse was found to be suffering from elementary consumption or from serious consumption that patient now, but not formerly, was notified to the medical officer of health of the district, and beyond him to a committee of benevolent ladies who formerly could not be invoked in this useful public service. The result was that by the efforts of the public health authority, plus nourishment and attention, and often the taking of the children away from the home, agencies of an ameliorative and in many cases preventive character were brought into operation. This was the result of the circular of 18 months ago. The matter had had to be carried out cautiously and by experiments. So satisfied had his department been with the success in notifying the 35 per cent. of consumption in the Poor-law that he brought about the notification of another 35 per cent.—the persons who did not go to the Poor-law infirmary and were not admitted to workhouse, but who went to the general hospitals and consumptive hospitals. He brought this notification into force six weeks ago, with the result that in secrecy and under bond of confidence every man treated for consumption at the special or general hospitals in London or the provinces was notified to the local authority, with the result that his disease was mitigated. Possibly if it was in the elementary stage, steps were taken to see that the patient had good food, or preferably to send him to a sanatorium where he could be permanently relieved or get effective treatment. That left 30 per cent. of the cases still to be dealt with, and these presented greater difficulties. They were the class of people who did not appeal to the Poor-law and who did not go to general or public or special hospitals. If the 35 per cent, brought in six weeks ago showed the promise of the previous experiment, he thought that he would have the House with him if he made an additional experiment. If the facts warranted him he was prepared to submit to any criticism, as the result of a piece of benevolent despotism of that special kind. He mentioned those instances to show how unconsciously or unfairly the Local Government Board had been subject to misapprehension or to criticism. It had been said that pauperism ought to be transferred from the guardians to the county councils. Pauperism remained pauperism by whatever name it was labelled. It was not going to be disposed of by transferring its treatment to the overworked county councils and town councils. The Royal Commission on the Poor-law was divided on this subject. There was one fact which could not be disposed of and for which the much-abused boards of guardians deserved great credit for bringing about. In 1850 there were 62 paupers per 1000 of the population. In 1909 that proportion was reduced to 26 per 1000. Since he had been in office the 26 had been reduced to 18·7. Outdoor pauperism was 54 per 1000 in 1850. It was 15 in 1909 and it was only 11 at this moment.

Mr. LANSBURY: That is due to old-age pensions.

Mr. BURNS: Yes; but the honourable Member must credit the Government for introducing them as a means of remedying pauperism. Children had been reduced from 26 per 1000 to 7 per 1000. Able-bodied relief had been reduced from 12 to 2 per 1000. Indoor patients, with better treatment, better hospitals, and better nurses, remained at practically a stationary figure. The total pauperism in England and Wales since 1905 had diminished 22 per cent. He calculated that from 84 to 90 per cent. of the total pauperism was not of an industrial character but was due to physical, mental, or other disability. 12 to 18 per cent. were more or less mentally defective. With regard to the treatment of pauper children, he mentioned that in London out of 22,700 children in Poor-law institutions only 1062 were in workhouses proper, and of these 771 were under three years of age and 58 were in sick wards. Throughout England and Wales generally nearly as good a result could be shown. It had been suggested in one or two ways that what had been done by administration, by circular, and by order was not enough. He had never said that it was. But he had hoped on this vexed problem the House might have got, as it ought to have got, a united report from the Royal Commission on the Poor-law. He regretted that there were before the country at this moment the Majority Report, the Minority Report, Sir Charles Booth's view, and the County Council scheme, whilst the guardians objected either to some of the four or in many cases to all. He would ask the House to remember this fact. If he was asked to recommend to the Government—and he was recommending certain proposals with regard to the Poor-law—some of the schemes, he must ask the House to remember what Lord George Hamilton had said about one of them. He said that it would mean the annihilation of the family system, and would end in administrative chaos and in universal local bankruptcy. When he was told that one scheme would cost £18,000,000 he must ask honourable Members to remember that a Government could not be economical and at the same time carry out such a proposal. The sum being spent on pauperism in England and Wales was £15,500,000, and 50 per cent. of this expenditure was due to sickness alone. Unless they grappled with sickness, ill-health, and invalidity, a good deal of the cause of pauperism would remain. The Government hoped to deal with this subject in an infinitely more statesmanlike and bolder and more generous way than was ever conceived or dreamt of by either the Majority or Minority Reports. The Government would propose, through the Chancellor of the Exchequer, bolder and more generous methods. It would submit a scheme in principle, plan, and policy which would not pauperise but would protect character and would minister to minds diseased and bodies distressed. Its ultimate result would be that unemployment insurance, concerted, organised, and scientific, would attack poverty and destitution. The Government hoped to convert pauperism into self-supporting invalidity and convalescence so that by this process it might reduce sickness and apply rational methods to disease. He asked the House to rest assured that until these schemes were introduced and passed the Local Government Board would continue to help the aged, to improve the conditions of the sick poor, and especially to concentrate upon improving the condition of the children.

Mr. H. W. FORSTER urged that the feeble-minded in workhouses should be classified and divided from the sane.

Dr. CHAPPLE alluded at some length to the problem of hereditary disease and hereditary mental and moral defects.

After further debate Mr. Goldstone's motion was rejected by 107 votes to 48.

MONDAY, MAY 1ST.

*Public Vaccinators in the Bermondsey Union.*

Mr. LANSBURY asked the President of the Local Government Board whether he was aware that all the three public vaccinators of the Bermondsey Union received a fee of 6*s.* for each vaccination they successfully performed, although only one of that number was a teacher of vaccination; whether he was aware that, after complaints as to the cost of vaccination had been investigated by a departmental committee, the Local Government Board issued a Vaccination Order in 1907 placing the minimum fee which guardians might pay for vaccination in London at 2*s.* 6*d.* per case; whether the parents of the Bermondsey children were informed that their children were likely to be

practised on by medical students; and why the ratepayers of Bermondsey should have to pay for the provision of the instruction of those students in the art of vaccinating.—Mr. BURNS answered: I am aware that all the public vaccinators at Bermondsey are paid the same fees. The honourable Member is correct in stating that the minimum fee under the Board's order is 2s. 6d., but the actual fee to be paid is ordinarily a matter of arrangement between the guardians and the public vaccinator. Vaccinations when done by medical students are done under the direct personal supervision of the public vaccinator and in exactly the same way as other vaccinations are done. I am not aware whether the parents of children are informed as suggested in the question, but I have no doubt that the practice at the instructional classes is well known in the district; moreover, no parents are required to bring the children to the classes. They can, if they wish, have the vaccination performed in their own homes. With regard to the last part of the question, I may say that the ratepayers of the Bermondsey Union incur no charges in respect of the students. The latter pay for their own instruction.

*The Feeble-minded and Illegitimacy.*

Mr. HOUSTON asked the Secretary of State for the Home Department whether he was aware that a medical man had testified at a public lecture, given by him in Liverpool, that he had knowledge of 16 feeble-minded women having, from time to time, become collectively the mothers of over 100 illegitimate children, thereby increasing pauperism, vice, and crime, and entailing great cost upon the ratepayers; and what action he proposed to take to remedy this evil.—Mr. CHURCHILL wrote in reply: I have no knowledge of the lecture referred to, but the considerations mentioned in the question have frequently been brought before me, and I am deeply impressed with their importance.

*The Treatment of Degenerates.*

Mr. HOUSTON asked the Secretary of State for the Home Department whether, with the eugenic object of preventing the degeneracy and decadence of the people of this country by the propagation of imbecilic, weakly, and diseased children, he would introduce legislation to segregate in separate places imbecilic males and females and those suffering from incurable transmittable and hereditary diseases, or such other drastic measures as might be found possible having the same object; and whether he would state the character and nature of such legislative measures.—Mr. CHURCHILL (in a written answer) replied: I am not wholly without hope of being able to introduce a Bill on the subject of the feeble-minded this session. A Bill is in preparation, but I am not in a position to enter into details. The scope of the Bill will not extend beyond mental deficiency and possibly epilepsy.

TUESDAY, MAY 2ND.

*Imported Milk.*

Captain FABER asked the President of the Local Government Board what precautions were taken by his department to ensure that only pure milk was imported from abroad.—Mr. BURNS answered: Samples of imported milk have been obtained by inspectors of the Foods Department and examined for tubercle and dirt content. Arrangements have been also made for the examination of a further series of samples. Perhaps I may remind the honourable gentleman that imported milk is liable to examination by the Commissioners of Customs in pursuance of the provisions of the Sale of Food and Drugs Act, 1899.

WEDNESDAY, MAY 3RD.

*Surgeons in the Royal Navy.*

Lord CHARLES BERESFORD asked the First Lord of the Admiralty whether there was a deficiency of 66 surgeons on the establishment for those officers in the Navy List; whether the number of ships in commission would probably be increased, and what steps the Admiralty intended to take to fill these vacancies.—Mr. MCKENNA replied: The number of surgeons is at present 54 below the authorised establishment. It is hoped that the recommendations of the committee on the Naval Medical Service, when carried into effect, will enable the deficiency to be made good.

Lord CHARLES BERESFORD: Can the right honourable gentleman explain the cause of the inability of the Admiralty to fill up this branch of the naval service?

Mr. MCKENNA: The committee investigated that subject and made various proposals in order to get over the difficulty. I hope when the difficulties disclosed are got over we shall be able to get the necessary numbers.

Lord CHARLES BERESFORD: Will the House be able to see what they receive in the way of pay?

Mr. MCKENNA: Perhaps the noble lord will put that question down.

Sir CLEMENT KINLOCK-COOKE: When will the recommendations of the committee come into force?

Mr. MCKENNA: There is more than one department involved, so I am not in a position to answer.

## BOOKS, ETC., RECEIVED.

ARNOLD, EDWARD, London.

Practical Photo-Micrography. By J. Edwin Barnard, F.R.M.S., Lecturer in Microscopy, King's College, London. Price 15s. net.

BALE (JOHN), SONS, AND DANIELSSON, LIMITED, London.

The Conquest of Consumption. Containing Advice to Sufferers Before, During, and After Sanatorium Treatment. By E. W. Diver, M.D. Price 2s. 6d. net.

The Life History, Function, and Inflammation of the Appendix. An Address delivered to the Clinical Society of Manchester, January, 1911. By Edred M. Corner, M.A., M.C., F.R.C.S. Price 1s.

CHURCHILL, J. AND A., London.

Diseases of the Skin. By James H. Sequeira, M.D. Lond., F.R.C.P. Lond., F.R.C.S. Eng. Price 25s. net.

CONNELL AND BAILEY, LIMITED, St. Peter's-square, Stockport. ST. JOHN AMBULANCE ASSOCIATION, St. John's Gate, London.

How to Act in Cases of Emergency. Aids to Memory for "First Aid" Students. Arranged specially for the "St. John Ambulance Association" Course of Instruction in "First Aid." By L. M. Frank Christian, M.B., C.M. Edin. Price 6d. net, by post 7d.

DOIN, OCTAVE ET FILS, Paris.

Les Maladies de la Cinquantaine.

Dr. Arthur Leclercq. Tome Ier. L'Artériosclérose. (Évolution clinique et Traitement.) Price Fr.6.

Tome II. Clinique du Cœur d'après l'étude de ses Rythmes. Price Fr.6.

Tome III. Le Diabète. Ouvrage couronné par l'Académie de Médecine (Prix Alvarenga). Price Fr.6.

Tome IV. Les Albuminuries et leur Traitement. Price Fr.5.

FISCHER, GUSTAV, Jena.

Die Therapie der Magen- und Darmerkrankungen. Von Sanitätsrat Dr. Carl Wegele, Besitzer einer Anstalt für Magenkranke in Bad Königsborn (Westfalen). Vierte umgearbeite Auflage. Price, paper, M.7.50; bound, M.8.50.

Handbuch der Gesamten Therapie. In sieben Bänden. Herausgegeben von Dr. F. Penzoldt und Dr. R. Stintzing. Vierte umgearbeitete Auflage. Siebzehnte und achtzehnte Lieferung. Price M.4.50 per Lieferung. Neunzehnte Lieferung, price M.4.50. Price of the complete work, M.100; bound, M.117.50.

Handbuch der Vergleichenden Physiologie. Herausgegeben von Hans Winterstein in Rostock. Vierzehnte Lieferung. Band IV. Physiologie der Reizaufnahme, Reizleitung und Reizbeantwortung. Erste Hälfte. Price M.5.

Bericht über die Ergebnisse der Konjunktivalreaktion mit Tuberkulin sowie über die lokalen Tuberkulinreaktionen bei Tieren, speziell beim Rinde. Von Dr. A. Wolff-Eisner, Vorsteher der bakteriologischen Abteilung des städtischen Krankenhauses Berlin-Friedrichshain und Arzt für innere Krankheiten. Erstattet im Auftrage des kgl. preussischen Ministeriums für Landwirtschaft, Forsten und Domänen. (Abdruck aus der Zeitschrift für Tiermedizin, 1911, Bd. XV.) Price M.1.20.

Die Hernien und ihre Behandlung. Von O. Borchgrevink, Oberarzt des Diakonenhospitals in Christiania. Price, paper, M.5.; bound, M.6.

HIRSCHWALD, AUGUST, Berlin.

Stoffwechsel und Stoffwechselkrankheiten. Einführung in das Studium der Physiologie und Pathologie des Stoffwechsels für Aerzte und Studierende. Von Prof. Dr. Paul Friedrich Richter, Privatdozent an der Universität Berlin. Zweite Auflage. Price M.8.

Nothelferbuch. Leitfaden für Erste Hilfe bei plötzlichen Erkrankungen und Unglücksfällen. Herausgegeben von der Medizinalabteilung des Königlich Preussischen Ministeriums der geistlichen, Unterrichts- und Medizinal-Angelegenheiten. Price M.2.

INTERSTATE MEDICAL JOURNAL CO., Metropolitan Building, St. Louis, Mo.

The Practitioner's Case-Book. For Recording and Preserving Clinical Histories. Prepared and Arranged by the Editorial Staff of the Interstate Medical Journal. Price not stated.

JOURNAL OF NERVOUS AND MENTAL DISEASE PUBLISHING COMPANY 64, West 56th-street, New York.

Nervous and Mental Disease Monograph Series, No. 5. The Wassermann Sero-Diagnosis of Syphilis in its Application to Psychiatry. By Dr. Felix Plaut, Scientific Assistant in the Psychiatric Clinic of the University of Munich. Authorised Translation by Smith Ely Jelliffe, M.D., Ph.D., Professor of Psychiatry, Fordham University, New York, and Louis Casamajor, A.M., M.D., Assistant, New York Neurological Institute. Price $2.00.

LAMERTIN, HENRI, LIBRAIRE MÉDICALE DE, 58, rue Coudenberg (Montagne-de-la-Cour), Bruxelles.

Annales de la Société Royale des Sciences Médicales et Naturelles de Bruxelles. Soixante-treizième Année. Tome XIX. Fasc. 2, 3 et 4. Price not stated.

LAURIE, T. WERNER, Clifford's Inn, Fleet-street, London.

The Land of Promises. By Stanley Portal Hyatt. Price 6s.

LONGMANS, GREEN, AND CO., London, New York, Bombay, and Calcutta.

The Chemistry of Synthetic Drugs. By Percy May, B.Sc. Lond. Price 7s. 6d. net.

MACMILLAN AND CO., LIMITED, London.

Disease in Bone and its Detection by the X Rays. By Edward W. H. Shenton, M.R.C.S. Eng., L.R.C.P. Lond., Senior Surgical Radiographer, Guy's Hospital. Price 4s. 6d. net.

MALOINE, A., Paris.

Nouvelles Méthodes de Séro-Diagnostic. Syphilis, Mycoses, Kystes Hydatiques, Lèpre, &c. Par le Dr. Bd. Joltrain, Ancien interne des Hôpitaux. Préface du Professeur Gaucher. Troisième Edition avec Figures. Revue et augmentée. Price Fr.4.

MARLBOROUGH, E., AND CO, 51, Old Bailey, London, E.C.

Burmese Self-Taught. (In Burmese and Roman Characters.) With Phonetic Pronunciation. (Thimm's System.) By R. F. St. A. St. John, Hon. M.A. Oxon., author of "A Burmese Reader," sometime Lecturer on Burmese, Universities of Oxford and Cambridge. Price, wrapper, 5s.; cloth, 6s.

MÜLLER, JOHANNES, Amsterdam.

Communications Statistiques publiées par le Bureau Municipal de Statistique d'Amsterdam. No. 26. Mortalité par Cancer à Amsterdam pendant les Années 1862-1902. Par feu le Dr. J. J Van Konijnenburg, Adjoint au Bureau municipal de Statistique. Price Fl.0.25.

MURRAY, JOHN, London.

Yellow Fever and its Prevention. A Manual for Medical Students and Practitioners. By Sir Rubert W. Boyce, M.B., F.R.S., Holt Professor of Pathology, University of Liverpool. Price 10s. 6d. net.

PRESS OF THE AMERICAN MEDICAL ASSOCIATION, 535, Dearborn-avenue Chicago.

New and Non-official Remedies, 1911: Containing Descriptions of the Articles which have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association prior to Jan. 1st, 1911. Price, paper, 25 cents; cloth, 50 cents.

PUTNAM'S (G. P.) SONS, New York and London.

Love and Marriage. By Ellen Key, author of "The Century of the Child," &c. Translated from the Swedish by Arthur G. Chater. With a Critical and Biographical Introduction by Havelock Ellis. Price 6s. net.

RELIGIOUS TRACT SOCIETY, 4, Bouverie-street, and 65, St. Paul's Churchyard, London, E.C.

Recollections of an Irish Doctor. By the late Lombe Atthill, M.D., some time President of the Royal College of Physicians, Dublin, President of the Royal Academy of Medicine, Ireland, and Master of the Rotunda Hospital. Price 2s. 6d. net.

RIEDEL (J. D.) COMPANY, Chemische Fabrik, Gerichtstrasse, 12/13, Berlin, N.39; 54, Cannon-street, London, E.C.; 29-35, West 32nd-street, New York.

Riedel's Berichte. Riedel's Mentor. 55.Auflage. Gratis to readers of THE LANCET.

SAMPSON LOW, MARSTON, AND CO., LIMITED, London.

Triumphs and Wonders of Modern Chemistry. A Popular Treatise on Modern Chemistry and its Marvels, written in Non-Technical Language for General Readers and Students. By Geoffrey Martin, B.Sc. Lond., M.Sc. Bristol, Ph.D. Rostock. Price 7s. 6d. net.

SANITARY PUBLISHING CO., LIMITED, London.

Meat and Food Inspectors' Examinations. Model Answers to Questions set by the Royal Sanitary Institute and other Examining Bodies. Compiled by G. T. Billing, Meat Inspector, Metropolitan Borough of Finsbury, and A. H. Walker, Sanitary Inspector, Metropolitan Borough of St. Pancras. Price 3s. 6d. net.

SAUNDERS (W. B.) COMPANY, Philadelphia and London.

Diagnostic and Therapeutic Technic. A Manual of Practical Procedures Employed in Diagnosis and Treatment. By Albert S. Morrow, A.B., M.D., Adjunct Professor of Surgery in the New York Polyclinic. Price 21s. net.

Collected Papers by the Staff of St. Mary's Hospital Mayo-Clinic, Rochester, Minnesota, 1905-1909. By W. J. and C. H. Mayo, M.D., and their Associates at St. Mary's Hospital. Price 24s. net.

Differential Diagnosis. Presented through an Analysis of 383 Cases. By Richard C. Cabot, M.D., Assistant Professor of Clinical Medicine, Harvard University Medical School, Boston. Price 24s. net.

State Registration for Nurses. By Louis Croft Boyd, R.N., Graduate, Colorado Training School for Nurses, connected with City and County Hospital, Denver, Colorado. Price 2s. 6d. net.

URBAN UND SCHWARZENBERG, Berlin und Wien.

Kompendium der topischen Gehirn- und Rückenmarksdiagnostik. Kurzgefasste Anleitung zur klinischen Lokalisation der Erkrankungen und Verletzungen der Nervenzentren. Von Robert Bing, Nervenarzt, Privatdozent für Neurologie an der Universität Basel. Zweite, vermehrte und verbesserte Auflage. Price, paper, M.6; bound, M.7.50.

Hautkrankheiten sexuellen Ursprungs bei Frauen. Von Dr. Oskar Scheuer, Facharzt für Haut- und Geschlechtskrankheiten in Wien. Price, paper, M.8; bound, M.10.

# Appointments.

*Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to* THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

ALEXANDER, BETHIA S., M.B., Ch.B. Glasg., has been appointed an Assistant School Medical Officer for Fife.

BARR, WILLIAM, M.B., Ch.B., B.Sc. (Public Health) Glasg., D.P.H. Camb., has been appointed Assistant Medical Officer of Health and School Medical Officer for Ayrshire.

BETTS, LEONARD BOWRING, L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer of Health for the Bideford (Devon) Rural District Council.

BLANFORD, H. O., M.B., B.S. Lond., has been appointed Medical Superintendent of the West Wales Sanatorium at Alltymynydd.

BREMNER, A., M.B., Ch.B. Edin., D.P.H. Camb., has been appointed Medical Officer of Health and Medical Inspector of Schools for Sutherland.

COHEN, M., M.D. Lond., has been appointed Resident Medical Officer for the Union of Hull.

CURETON, E., M.D. Brux., M.B., Ch.B. Birm., has been appointed Honorary Medical Referee to the King Edward VII. Memorial Sanatorium Association for Shropshire.

EASTON, R. M., has been appointed Resident Medical Officer at the Aberdeen Royal Infirmary.

FLEMING, G. B., B.C. Cantab., has been appointed Extra-Dispensary Physician to the Glasgow Western Infirmary.

GARDNER, H. W., M.D. Lond., M.R.C.P. Lond., has been appointed Honorary Medical Referee to the King Edward VII. Memorial Sanatorium Association for Shropshire.

HOLDEN, S. J. C., M.B., Ch.B. Liverp., has been appointed House Surgeon to the South Dispensary, Liverpool.

JACKSON, A., F.R.C.S. Eng., has been appointed Honorary Consulting Surgeon to the King Edward VII. Memorial Sanatorium for Shropshire.

LAIRD, ARTHUR H., M.B. T.C.D., has been appointed House Surgeon at the Royal Halifax Infirmary.

LINDSEY, COLIN DUNROD, M.D. Lond., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer to the Didworthy Dispensary for Tuberculosis, Plymouth.

MCKENZIE, IVY, M.B., Ch.B. Glasg., has been appointed Extra-Dispensary Physician to the Glasgow Western Infirmary.

MCMASTER, A. B., M.D. R.U.I., D.P.H. Vict., has been appointed Medical Officer of Crewe.

MORTON, HUGH, M.B., Ch.B. Glasg., has been appointed Extra-Dispensary Physician to the Glasgow Western Infirmary.

PATTISON, P., M.B., Ch.B. Edin., has been appointed an Assistant School Medical Officer for Fife.

PEARCE, F. H., M.B., B.C. Cantab., has been appointed Medical Officer to the King Edward VII. Memorial Sanatorium for Shropshire.

PHILLIPS, HENRY RUSSELL, M.B., B.C. Cantab., L.S.A. Lond., has been appointed Medical Officer of Health for the Paul (Cornwall) Urban District Council.

RAE, H. J., has been appointed Resident Medical Officer at the Aberdeen Royal Infirmary.

SCOTT, A., M.D. Glasg., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Glasgow (South-East) District of the county of Lanark.

THOMSON, W. G., has been appointed Resident Medical Officer at the Aberdeen Royal Infirmary.

WALLIS, C. EDWARD, L.D.S. R.C.S., has been appointed Dental Surgeon to King's College Hospital.

WINTERBURN, JOSEPH WILLIAMSON, L.S.A. Lond., has been appointed Medical Officer for the Dalwood and Stockland Districts by the Axminster (Devon) Board of Guardians.

# Vacancies.

*For further information regarding each vacancy reference should be made to the advertisement (see Index).*

ASHTON-UNDER-LYNE, DISTRICT INFIRMARY AND CHILDREN'S HOSPITAL.—Assistant House Surgeon. Salary £90 per annum, with board, residence, and laundry.

BARNSLEY, BECKETT HOSPITAL.—Second House Surgeon, unmarried. Salary £80 per annum and all found.

BATH ROYAL UNITED HOSPITAL.—House Surgeon. Salary £80 per annum, with board, lodging, and washing.

BATTERSEA DISPENSARY FOR THE PREVENTION OF CONSUMPTION.—Medical Officer. Salary £250 per annum.

BELGRAVE HOSPITAL FOR CHILDREN, Clapham-road, S.W.—Resident Medical Officer for six months. Salary at rate of £60 per annum, with board, residence, &c.

BIRMINGHAM AND MIDLAND EYE HOSPITAL.—Resident Surgical Officer. Salary £100 per annum.

BIRMINGHAM AND MIDLAND HOSPITAL FOR SKIN AND URINARY DISEASES.—Clinical Assistant for three months. Salary at rate of 52 guineas per annum.

BOLINGBROKE HOSPITAL, Wandsworth Common, S.W.—House Surgeon for six months. Salary £75 per annum, with board and residence.

BRISTOL ROYAL HOSPITAL FOR SICK CHILDREN AND WOMEN.—Junior Resident Officer. Salary £90 per annum, with rooms and attendance.

CAMBRIDGE, COUNTY ASYLUM.—Second Assistant Medical Officer, unmarried. Salary £140 per annum, with board, lodging, and attendance.

CANTERBURY, KENT AND CANTERBURY HOSPITAL.—House Physician, unmarried. Salary £70 per annum, with board, lodging, and washing.

CAPE TOWN, SOUTH AFRICAN COLLEGE.—Professor of Physiology. Salary £500 per annum.

CHESTERFIELD AND NORTH DERBYSHIRE HOSPITAL.—House Physician. Salary £70 per annum, with board, apartments, and laundry.

DEVONPORT, ROYAL ALBERT HOSPITAL.—Assistant Resident Medical Officer for six months, unmarried. Salary at rate of £50 per annum, with board, apartments, and laundry

EAST LONDON HOSPITAL FOR CHILDREN AND DISPENSARY FOR WOMEN, Shadwell, E.—Medical Officer for Electrical Department. Salary at rate of £75 per annum, with luncheon and tea.

EXMINSTER, DEVON COUNTY ASYLUM.—Third Assistant Medical Officer. Salary £140 per annum, all found.

GENERAL POST OFFICE.—Assistant Medical Officer (female), unmarried. Salary £200 per annum.

GROSVENOR HOSPITAL FOR WOMEN, Vincent-square, Westminster.—Medical Registrar.

HASTINGS, EAST SUSSEX HOSPITAL.—Assistant House Surgeon for six months. Salary at rate of £50 per annum, with rooms, board, and washing.

HUDDERSFIELD INFIRMARY.—Junior House Surgeon. Salary £60 per annum, with board, residence, and washing.

KING'S LYNN, WEST NORFOLK AND LYNN HOSPITAL.—House Surgeon, unmarried. Salary £100 per annum, with board, lodging, and washing.

LEEDS GENERAL INFIRMARY.—Ophthalmic Officer. Salary £100 per annum, with board, residence, and washing. Also Medical Officer for Ida and Robert Arthington Hospitals for six months. Salary £30. Also Obstetric Officer and House Physicians.

LEEDS HOSPITAL FOR WOMEN AND CHILDREN.—House Surgeon for six months. Salary at rate of £50 per annum, with board.

LEICESTER INFIRMARY.—Assistant House Physician for six months. Salary at rate of £60 per annum, with board, apartments, and washing.

LONDON FEVER HOSPITAL, Liverpool-road, N.—Assistant Resident Medical Officer. Salary £150 per annum, with residence and board.

MACCLESFIELD GENERAL INFIRMARY.—Senior House Surgeon. Salary £100 per annum, with board and residence.

NORWICH, NORFOLK AND NORWICH HOSPITAL.—Assistant House Surgeon for six months. Salary £20, with board, lodging, and washing.

NOTTINGHAM GENERAL HOSPITAL.—Assistant House Surgeon. Salary £100, with board, lodging, and washing. Also Locum Tenens. Salary at rate of £3 3s. per week, with board, lodging, and washing.

NOTTINGHAM WORKHOUSE INFIRMARY.—Assistant Resident Medical Officer, unmarried. Salary £130 per annum, with apartments, board, washing, and attendance.

PRESTWICH, COUNTY ASYLUM, Manchester.—Junior Assistant Medical Officer, unmarried. Salary £150 per annum, with board, apartments, washing, &c.

ROYAL EAR HOSPITAL, Soho.—House Surgeon. Salary £40 per annum.

ST. GEORGE'S UNION INFIRMARY, Fulham-road, S.W.—Second Assistant Medical Officer. Salary £130 per annum, with board, residence, and washing.

ST. MARK'S HOSPITAL FOR CANCER, FISTULA, AND OTHER DISEASES OF THE RECTUM, City-road, E.C.—Two Clinical Assistants.

ST. MARY'S HOSPITAL, London, W.—Resident Assistant Anæsthetist for six months. Salary at rate of £100 per annum, with board and residence.

SALFORD ROYAL HOSPITAL.—Two Honorary Surgeons, Two Assistant Surgeons, and Two Honorary Assistant Physicians.

SCOTLAND, UNITED FREE CHURCH.—Medical Missionaries for India, Manchuria, and West Africa.

SHEFFIELD ROYAL INFIRMARY.—Senior Assistant House Surgeon, Junior Assistant House Surgeon, and Seventh Resident Medical Officer. Salaries £70, £65, and £60 per annum respectively, with board and residence.

SOUTHAMPTON, ROYAL SOUTH HANTS AND SOUTHAMPTON HOSPITAL.—Junior House Surgeon for six months. Salary £60 per annum, with rooms, board, and washing.

SOUTHWARK UNION INFIRMARY, East Dulwich-grove.—Assistant Medical Officer. Salary £120 per annum, with board, lodging, and washing.

STOCKPORT INFIRMARY.—Junior House Surgeon. Salary £80 per annum, with board, washing, and residence.

SWANSEA GENERAL AND EYE HOSPITAL.—House Physician. Salary £75 per annum, with board, washing, and attendance.

TAUNTON AND SOMERSET HOSPITAL.—House Surgeon. Salary £120 per annum, with board, lodging, and laundry.

TEIGNMOUTH HOSPITAL, S. Devon.—House Surgeon. Salary £80, with board, lodging, and laundry.

VICTORIA HOSPITAL FOR CHILDREN, Tite-street, Chelsea, S.W.—House Surgeon for six months. Salary £40, with board, lodging, and laundry.

WAKEFIELD GENERAL HOSPITAL.—Junior House Surgeon, unmarried. Salary £100 per annum, with board, lodging, and washing.

WHITECHAPEL UNION INFIRMARY, Vallance-road, N.E.—First Assistant Resident Medical Officer. Salary £140 per annum, with rations, apartments, washing, &c.

WILTS COUNTY COUNCIL GENERAL EDUCATION COMMITTEE.—Assistant School Medical Inspector. Salary £250 per annum.

WISBECH, NORTH CAMBRIDGESHIRE HOSPITAL.—Resident Medical Officer. Salary £150 per annum, with unfurnished house.

WREXHAM INFIRMARY.—Honorary Ophthalmic and Aural Surgeon.

YORK DISPENSARY.—Two Resident Medical Officers, unmarried. Salary £140 per annum, with board, lodging, and attendance.

THE Chief Inspector of Factories, Home Office, London, S.W., gives notice of vacancies as Certifying Surgeons under the Factory and Workshop Act at Taunton, in the county of Somerset; and at Glasgow, Central, in the county of Lanark.

# Births, Marriages, and Deaths.

## BIRTHS.

BATEMAN.—On April 26th, at Heath-end, Blackheath, S.E., the wife of F. J. Harvey Bateman, M.D., C.M., of a son.

CLARKE.—On April 23rd, at Penryhn, Stourbridge, the wife of H. H. R. Clarke, M.R.C.S., L.R.C.P., of a son.

CRICHTON MILLER.—On April 27th, at San Remo, Italy, the wife of H. Crichton Miller, M.D., of a daughter.

CURTIS.—On April 29th, at Alton House, Red Hill, the wife of Frederick Curtis, F.R.C.S. Eng., &c., of a daughter.

DROOP.—On April 27th, at Madeley, Shropshire, the wife of Charles E. Droop, M.B., B.C. Cantab., of a son.

LUCE.—On April 25th, at Friar-gate, Derby, the wife of R. H. Luce, M.B., F.R.C.S., of a daughter.

## MARRIAGES.

LLEWELLYN—CROSSE.—On April 29th, at St. Paul's, Bath, R. Llewellyn Jones Llewellyn, M.B. Lond., to Avis M. Blennerhassett, widow of Herbert Crosse, and only child of Lord and Lady Headley.

OWEN—NEWINGTON.—On April 27th, at St. Peter's, Bayswater, Sydney Arthur Owen, M.D., to Dorothy Muriel Hayes Newington, eldest daughter of Mr. and Mrs. Reginald Hayes Newington, of Ormond Lodge, Hampton.

THURLOW—WELDON.—On April 29th, at St. James's Church, Tunbridge Wells, Basil Lyons Thurlow, M.D., F.R.C.S., to Margaret Barbara, eldest daughter of Mr. and Mrs. Edward Weldon, of Courtlands, Tunbridge Wells.

## DEATHS.

BEATSON.—On April 26th, at Vicarsgrange, Eastbourne, Surgeon-General William Burns Beatson, M.D., F.R.C.S. Eng., F.R.C.P. Lond., I.M.S., retired, in his 87th year.

BENTLEY.—On April 19th, at Llandrindod Wells, suddenly, Arthur James MacDonald Bentley, M.D., formerly Colonial Surgeon, Singapore, aged 61.

CLAREMONT.—On April 30th, 1911, at his residence, Petersleigh, 57, Elmgrove, Southsea, Hants, Claude Clarke Claremont, M.D., aged 56, eldest son of the late C. C. Claremont, M.R.C.S., of Millbrook House, Hampstead-road, London.

CORNER.—On April 27th, at Westcliff-on-Sea, Albert Corner, M.R.C.S., L.R.C.P., aged 45.

CRAIG CHRISTIE.—At Bedlay, Chryston, Lanarkshire, suddenly, on April 20th, Bernard Ramsay Craig Christie, M.D., aged 41 years, of 32, Inverleith-gardens, Edinburgh, younger son of the late Thomas Craig Christie, of Bedlay and Petershill.

LYON.—On April 27th, at Sutherland-avenue, W., Lieutenant-Colonel I. B. Lyon, C.I.E., I.M.S.

*N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.*

# Notes, Short Comments, and Answers to Correspondents.

## RAT PLAGUE IN SUFFOLK.

WE have received a report in pamphlet form upon the steps taken by the county council and the urban and rural district councils of the administrative county of East Suffolk in regard to the outbreak of rat plague which excited so much public interest during the later months of last year. This report is the work of Mr. H. Llewellyn Heath, who was appointed by the East Suffolk county council to the specially created post of temporary county medical officer of health for the purpose of organising a campaign against the spread of the disease. It will be remembered that during the last fortnight of September, 1910, four members of one household in the village of Freston died from an illness which was shown bacteriologically to be plague, and that at the same time and in the same neighbourhood dead rats were found the corpses of which swarmed with plague bacilli, while subsequently hares, ferrets, rabbits, and cats were proved to have died from the same disease. The local authorities soon set to work to encompass the destruction of rats throughout the affected area and otherwise to limit the outbreak. In this endeavour they obtained the advice and coöperation of the Local Government Board, which on Nov. 10th issued an Order strengthening the hands of the Public Health Committee, and which a week later received and consulted with a deputation from that body. The report outlines the various steps that were taken during the first three months of the outbreak, and includes a tabulated list of answers given by the district medical officers of health to the questions submitted to them as to the methods employed in each district. The district councils throughout the area were urged to do all they could to stir up the inhabitants of the several parishes to join in the work of rat destruction. All medical men practising in the county were written to by the public health committee with reference to the diagnosis and notification of plague, and the police were requested to report on the mortality of rats in various districts, and when necessary to forward bodies for examination. The local sanitary inspectors were instructed to make systematic investigations throughout the county, and warning notices and handbills were distributed broadcast. In addition, four nurses were immunised against the disease in order to be available for special work if the necessity should arise. Almost all the bodies of infected animals were found in the limited area known as the "Samford peninsula." Mr. Heath, in his conclusions, urges the necessity for persistent efforts in the work of rat extermination if any security is to be effected against a recurrence of plague in East Anglia during the summer months of the present year. In his account of the various methods of destruction which were adopted he states that different samples of virus preparations vary very much in potency, while amongst the country people there is a widespread prejudice against the use of any form of bacterial rat poison. Of the mineral and alkaloidal poisons barium carbonate is, in his experience, the least objectionable. But of all methods in common use the most efficacious seems to be the surrounding of ricks with wire-netting during the process of threshing.

## PUBLIC HEALTH IN THE PHILIPPINES.

ONE of the greatest triumphs of civilisation is the vast change that is being gradually brought about all over the world, by the new science of sanitation as practised under enlightened governments, in territories that formerly were regarded as essentially hotbeds of disease. The West Coast of Africa, the lower Mississippi States of America, the West Indies, the Isthmus of Panama, are instances in point. Since the Philippine Islands came under United States administration a great improvement in the morbidity statistics has taken place there also. In the Eleventh Annual Report of the Bureau of Health for the Philippine Islands for 1909-1910, Dr. V. G. Heiser, Director of Health, points to the steady progress made, especially in the direction of building permanent hospitals and instituting a tuberculosis camp and a training-school for male nurses. Cholera has been held at bay, small-pox has been reduced by vaccinating more than a million people, beri-beri has been stamped out of Cullon, and a campaign against other preventable diseases has been actively begun. The death-rate among Government employees, who number more than 2000 Americans and 7600 Filipinos, for the year was only 5·82 per 1000, which compares very favourably with the civilian population of any other tropical country, even when we make allowance for the fact that very old people, young children, and unhealthy adults are all excluded. As a consequence of the low rates of mortality among Government servants some insurance companies have now removed the extra premium which used invariably to be charged as a penalty for residing in the Philippine Islands. Investigation is proceeding to try to throw some light on a disease closely resembling beri-beri, which was found to be one of the principal causes of infantile mortality. Out of 219 children who died under the age of 12 months, as many

as 124 were returned after the necropsy as having died from a disease similar to moist beri-beri. This mysterious and fatal malady seems especially to attack infants under the age of 2 or 3 months. The prominent findings on the post-mortem table are "dilated and hypertrophied right heart, congestion of all internal viscera, and anasarca." No attempt has yet been made to give the etiology of the problem, but attention is called to the fact that Professor Hirota of Tokyo described, in 1898 and 1900, "infantile beri-beri" as occurring in some babies brought to his hospital. The Manila authorities have accepted the theory of the Straits Settlements, that beri-beri in adults is caused by the continuous consumption of polished rice, and claim to have eradicated in a few weeks an outbreak of beri-beri in the Culion leper colony, which had previously resisted other measures. The Governor-General of the Philippines, under Dr. Heiser's advice, issued last May an executive order forbidding the use of polished rice in all public institutions. The experimental treatment of cholera at San Lazaro hospital by the hypertonic salt solution gave results which were not superior to the use of the ordinary salt solutions, but this report does not make it clear whether the intravenous method and other precautions, as recommended by Professor Leonard Rogers, were invariably employed. The discovery of cholera carriers in Manila has already been mentioned by us (THE LANCET, April 1st, 1911, p. 892). In the fight against tuberculosis the cinematograph has been enlisted, and tubercle bacilli "are now being shown in Manila every night to thousands of people." Dysentery, both bacillary and amœbic, accounted for 213 deaths in Manila. The existence of rabies in two dogs was shown for the first time in Philippine history by the discovery of Negri bodies, which, after inoculation into rabbits, were again found in the brains of the rabbits. As in former years, many remedies for the reputed cure of leprosy have been tried. A thorough trial of nastin gave negative results, but confidence is still maintained in the beneficial results in certain forms of leprosy of the X ray and chaulmoogra oil treatment, aided by hot baths containing bicarbonate of soda. No plague in man or rat occurred during the year, and only one case of pellagra was reported. The inhabitants, who used to threaten the lives of the vaccinators, are now so conscious of the benefits of vaccination that they welcome and invite vaccination against small-pox. To the report are appended several tables of statistics and photographs, some of which show lepers acting as municipal president, councillors, police, and bandsmen in the Culion Leper Colony, which has some 1700 inmates.

## TWENTIETH CENTURY HYGIENE.

UNDER the above heading a lay correspondent, signing himself "M.A.," sends us a letter, in which he says:—

> "I live in the busy thoroughfare of a large country town. The local wiseacres have tarred the road on which my house abuts. The result is, that the street refuse on the surface lies festering in the sun, the road dries almost as soon as the water-cart passes, and every few minutes motors raise clouds of microbe-laden dust, which penetrate every room in the house and fill the lungs of the inhabitants. This condition of things exists to a greater or less extent all over the country, and yet the 'health committee' of a borough council (Paddington) is considering a new by-law compelling the occupiers of tenement houses to open their windows for two hours a day under a penalty of £5!"

Whilst sympathising to some extent with our correspondent, we think that there is a good deal to be said in favour of tarring the roads. It is true that in dry weather the street refuse is liable to become scattered in the form of dust, but every shower of rain washes the tarred surface far more effectively than it can the untreated country road. Furthermore, we do not think that "M.A." has established a case against the proposed compulsory window ventilation of tenement dwellings in Paddington.

## THE ENGLISH MISSION HOSPITAL, BAGDAD.

BAGDAD has other things besides its projected railway deserving the attention of the British public. We have received from Mr. Frederick Johnson a copy of the report for 1910 of the English Mission Hospital at Bagdad. This hospital was established in 1886 by a missionary society, and at present carries on its work at a considerable disadvantage in two adjoining houses capable of accommodating about 25 patients. Being situated in the heart of the city, the heat in summer and the prevalent odours of oriental countries do not render it by any means an ideal or sanitary location for a hospital, and during the past year a healthy site, 150 metres by 40 metres in extent and planted with palm trees, has been purchased below the town, on the eastern bank of the river, at a cost of £2000. Towards the purchase money the sum of £326 5*s.* 9*d.* was obtained by the institution during the past few years from local receipts from the pockets of the people of the country; the remainder was contributed through the Pan-Anglican thankoffering of 1908 and by the Church Missionary Society. The total sum now remaining in hand is less than £450, so that a substantial advance in contributions is necessary before building operations can be begun. The staff consists of three medical officers—viz., Mr. Johnson himself, Mr. G. W. Stanley, and Miss S. E. Hill, M.B.; a qualified nurse, Miss F. E. Anderton (replacing Miss Lavy, who was unfortunately lost in the wreck of the s.s. *Kurdistan*); a dispenser, and a hospital assistant. For the rest, dependence has to be placed on native male and female assistants, who require much training, which can be carried out only with difficulty in Bagdad. For many years the entire working expenses—viz., rent, salaries of dispenser, assistants, servants, cost of drugs and instruments, &c.—have been covered by the local receipts, including the contributions of patients. The majority of patients pay about 4*d.* at each visit, and the usual fee for an operation is about 6*s.* 8*d.*, though in both cases the really poor are treated free. In-patients, as a rule, provide their own food, and are attended by a relative or friend. The total number of patients attended in the year was 11,202, of whom 485 were in-patients and 230 were seen at their own homes. The number of operations performed was 485, of which operations for stone and other diseases of the bladder numbered 116. Bilharziosis, we are informed by Mr. Johnson, is a prevalent trouble. The peasants who drink from the actual rivers (the Tigris and Euphrates) seem to be exempt, but those who drink from the stagnant pools that remain after the subsidence of the spring overflow seem especially liable to the disease. An analogy is thus suggested with Egypt. Anyone desirous of contributing towards the building fund should communicate with Dr. R. Elliott, Church Missionary Society, Salisbury-square, London.

## TANTALUM DENTAL AND SURGICAL INSTRUMENTS.

THE use of tantalum in dentistry is rapidly growing in favour, and the qualities of the metal are such as to render it singularly well adapted for certain purposes. In a catalogue recently issued by Messrs. Siemens Brothers and Co. of Caxton House, Westminster, S.W., it is pointed out that dental instruments which have so far been made for the purpose of penetrating into the smallest cavities, nerve channels, and so forth, are constructed of metal which is generally not acid-resisting. When, however, they are made of acid-proof materials such as agate and ivory these materials, in consequence of their great fragility, cannot be made sufficiently fine to admit of easy work in every position. The elasticity and strength of tantalum are a combined advantage. Further, tantalum instruments do not rust and they retain their bright surface in a damp atmosphere; they may be cleaned in acids, sterilised and boiled in soda, and are very durable. Tantalum is also of service in the tantalum needle for the injection of drugs. The needles are less expensive and stronger than platinum-iridium needles, and can readily be cleaned and sterilised without damage.

## A PORTRAIT OF PROFESSOR OSLER.

THE *Century Magazine* for May, which contains several articles of interest, continues its series of examples of American portraiture, the present example being a half-tone engraving of Professor Osler from the painting by Mr. William M. Chase. Professor Osler is depicted in academic dress, and the portrait is a good one.

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*J. M. H.* (*Edinburgh*) should consult his medical adviser, who will, no doubt, be able to recommend him a suitable work on physical exercises.

**COMMUNICATIONS not noticed in our present issue will receive attention in our next.**

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## A DIARY OF CONGRESSES.

WE shall publish this diary from time to time that our readers may have under their hands the dates of the approaching scientific Congresses. It is unnecessary to issue the lists of all these functions week by week, and we propose to make only such gatherings as will occur in the immediate future the subject of regular announcement. The following Congresses, Conferences, and Exhibitions are announced for April and May, 1911:—

April–October.—Rome Exhibition (United Italy's Jubilee).
,, 22nd–May 6th (London, Olympia).—Building Exhibition.
,, 29th–Oct. 26th (Turin).—International Exhibition.
May 3rd–Oct. 31st (Glasgow).—Scottish Exhibition.
,, 8th–12th (London).—Seventeenth Chemists' Exhibition.
,, 10th (London, Holborn Town Hall).—Nurses' Missionary League Exhibition.
,, 10th (London, Holborn Restaurant).—Reception by the President of the Pharmaceutical Society.
,, 11th–13th (Baltimore).—American Neurological Association.
,, 12th–Oct. 31st (London, Crystal Palace).—Festival of Empire Imperial Exhibition. (Profits to King Edward VII. Hospital Fund.)
,, 13th–27th (London, Agricultural Hall).—Chemical Exhibition.
,, 17th (London).—Pharmaceutical Society's Annual Meeting.
,, 18th–June 3rd (London).—Royal Naval and Military Tournament.
,, 18th and 19th (London, Ontario).—Eleventh Annual Meeting, Canadian Association for the Prevention of Tuberculosis.
,, 18th–October 31st (London, Shepherd's Bush).—Coronation Exhibition.
,, 22nd (opens) (London).—Imperial Conference.
,, 30th (The Hague).—International Congress on Opium.

May 30th–June 2nd (London).—National Conference on the Prevention of Destitution.
" (Paris).—International Sanitary Conference (Prevention of Plague).
" (Washington).—Conference on the Protection of Industrial Property. (Question of False Marking of Goods.)
May–October (Dresden).—International Hygiene Exhibition.
" " (London).—Earl's Court Exhibition.

# Medical Diary for the ensuing Week.

## SOCIETIES.

**ROYAL SOCIETY OF MEDICINE, 15, Cavendish-square, W. (temporary address during building of new house).**

TUESDAY.

SURGICAL SECTION (Hon. Secretaries—Jonathan Hutchinson, L. A. Dunn), at 11, Chandos-street, W.: at 5 P.M.

*Demonstration*

Of Cases of Cleft Palate Operated on by Various Methods, followed by a *Debate* to be opened by Mr. Arbuthnot Lane. The following will also take part or will demonstrate cases:—Dr. Ulrich (Copenhagen), Mr. A. W. Murray (Liverpool), Mr. Harold J. Stiles (Edinburgh), Mr. Edmund Owen, Mr. Douglas Drew, Mr. F. F. Burghard, Mr. G. E. Waugh, Mr. Barrington Ward, Mr. T. H. Kellock.

THURSDAY.

OBSTETRICAL AND GYNÆCOLOGICAL SECTION (Hon. Secretaries—G. F. Blacker, J. H. Targett), at 11, Chandos-street, W.: at 8 P.M.

Annual Meeting.—Election of Officers and Council for Session 1911–1912. Consideration of Revised Laws.

*Specimens:*

Dr. Clifford White: Fœtus with Congenital Absence of Sacrum.
Dr. Drummond Robinson: Glands in Cervix of Fœtus.
Dr. Herbert Spencer: Glands in Cervix of Fœtus.
Dr. J. E. Gemmell: Teratoma of Ovary.
Dr. C. E. Purslow: Retroflexion of Gravid Uterus with Superimposed Fibroid.

*Short Communication:*

Dr. A. E. Johnson: Gangrene of the Vagina Probably Due to the Action of a Pink Rubber Pessary.

*Demonstration with Epidiascope:*

The Mode of Action of the Fœtal Structures on the Maternal Tissues, with an Explanation of the Functions of the Decidua. Exhibition of Very Early Human Ovum.

FRIDAY.

GENERAL MEETING OF FELLOWS at 4.45 P.M.
Election of Candidates for Fellowship.

CLINICAL SECTION (Hon. Secretaries: A. Carless, J. Galloway) at 8 P.M.

Annual Meeting.—Election of Officers and Council for Session 1911–1912.

*Cases:*

Dr. Wilfred Harris: Myositis Fibrosa.
Mr. Edred Corner: Trophic Ulceration over Extensive Formation of Scar Tissue.
Dr. J. Fawcett: Cystic Kidneys.
Mr. Herbert Tilley: Patient and Specimens Illustrating Removal of Foreign Bodies from the Air-passages and the Œsophagus.
Dr. H. D. Rolleston: Rigidity of the Spine.

*Communication:*

Dr. Wilfred Harris and Mr. W. H. Clayton-Greene: The Treatment of Acute Suppression of Urine by Incision of the Kidneys.

**MEDICAL SOCIETY OF LONDON, 11, Chandos-street, Cavendish-square, W.**

MONDAY.—8 P.M., General Meeting. Election of Officers, &c. 8.30 P.M., Dr. A. F. Voelcker: The Limitations of the Successful Employment of Salicylates in Rheumatic Affections.—Mr. Wilfred Trotter: The Symptoms of Malignant Tumours of the Naso-pharynx.

**UNITED SERVICES MEDICAL SOCIETY, Royal Army Medical College, Grosvenor-road, S.W.**

WEDNESDAY.—5 P.M., Fleet-Surgeon W. A. Whitelegge, R.N.: Eye Strain in the Royal Navy.—Fleet-Surgeon J. H. Whelan, R.N. (retired): The Action of Quinine in Malarial Fever.

**NEW LONDON DERMATOLOGICAL SOCIETY, West London Hospital, Hammersmith, W.**

THURSDAY.—4.30 P.M., Dr. D. Walsh: Notes on a Case of Osmium Rash. Clinical Cases.

## LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

**ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C.**

MONDAY.—5 P.M., Mr. Shattock: Specimens Illustrating Diseases of Voluntary Muscle; Cartilage; Bursæ. (Museum Demonstration.)

**MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, W.C.**

MONDAY.—4 P.M., Dr. W. Fox: Clinique (Skin). 5.15 P.M. Lecture:—Mr. P. L. Mummery: Rectal Incontinence and its Treatment.
TUESDAY.—4 P.M., Dr. G. A. Sutherland: Clinique (Medical). 5.15 P.M., Lecture:—Dr. G. H. Savage: Mental Disorder and Suicide.
WEDNESDAY.—4 P.M., Mr. W. S. Handley: Clinique (Surgical). 5.15 P.M., Lecture:—Mr. A. E. J. Barker: Bursal Swellings in the Neighbourhood of the Knee-joint.
THURSDAY.—4 P.M., Mr. H. J. Paterson: Clinique (Surgical). 5.15 P.M., Lecture:—Dr. J. H. Thursfield: Congenital Syphilis (with lantern demonstration).
FRIDAY.—4 P.M., Mr. A. McNab: Clinique (Eye).

**POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.**

MONDAY.—10 A.M., Surgical Registrar: Demonstration of Cases in Wards. Dr. Simson: Diseases of Women. 12 noon: Pathological Demonstration:—Dr. Bernstein. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. 2.30 P.M., Mr. Dunn: Diseases of the Eye. 5 P.M., Lecture:—Mr. Bidwell: Surgical Treatment of Gastric Ulcer.
TUESDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. 11.30 A.M.: Mr. Ritherington-Smith: Demonstration of Minor Operations. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Dr. Abraham: Diseases of the Skin. 5 P.M., Lecture:—Dr. Low: Insects as Carriers of Tropical Diseases.
WEDNESDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. Dr. Simson: Gynæcological Demonstration. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. Mr. B. Harman: Diseases of the Eye. 2.30 P.M., Dr. Simson: Diseases of Women. 5 P.M., Lecture:—Dr. Beddard: Practical Medicine. (Lecture I.)
THURSDAY.—10 A.M., Surgical Registrar: Demonstration of Cases in Wards. 12.15 P.M., Lecture: Dr. G. Stewart: Practical Medicine. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. 2.30 P.M., Mr. Dunn: Diseases of the Eye. 5 P.M., Lecture:—Mr. Baldwin: Practical Surgery. (Lecture I.)
FRIDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Dr. Abraham: Diseases of the Skin. 5 P.M., Lecture:—Dr. Saunders: Clinical (with cases).
SATURDAY.—10 A.M., Dr. Saunders: Diseases of Children. Medical Registrar: Demonstration of Cases in Wards. Dr. Davis: Operations of the Throat, Nose, and Ear. Mr. B. Harman: Diseases of the Eye. 2 P.M., Medical and Surgical Clinics. X Rays. Operations.

**NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.**

MONDAY.—Clinics:—10 A.M., Surgical Out-patient (Mr. E. Gillespie), 2.30 P.M., Medical Out-patient (Dr. T. R. Whipham); Nose, Throat, and Ear (Mr. H. W. Carson).
TUESDAY.—Clinic:—10 A.M., Medical Out-patient (Dr. A. G. Auld). 2.30 P.M., Operations. Clinics:—Surgical (Mr. Howell Evans); Gynæcological (Dr. A. E. Giles). 3.30 P.M., Medical In-patient (Dr. A. J. Whiting).
WEDNESDAY.—Clinics:—2.30 P.M., Medical Out-patient (Dr. T. R. Whipham); Skin (Dr. G. N. Meachen); Eye (Mr. R. P. Brooks). 3 P.M., X Rays (Dr. A. H. Pirie).
THURSDAY.—2.30 P.M., Gynæcological Operations (Dr. A. E. Giles). Clinics:—Medical Out-patient (Dr. A. J. Whiting); Surgical (Mr. Carson). 3 P.M., Medical In-patient (Dr. G. P. Chappel). 4.30 P.M., Lecture:—Dr. R. M. Leslie; Changes in the Thorax and Thoracic Organs during Adolescence.
FRIDAY.—2.30 P.M., Operations. Clinics:—Medical Out-patient (Dr. A. G. Auld); Surgical (Mr. E. Gillespie); Eye (Mr. R. P. Brooks). 3 P.M., Medical In-patient (Dr. R. M. Leslie).

**LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich.**

MONDAY.—2 P.M., Operations. 2.15 P.M., Mr. Turner: Surgery. 3.15 P.M., Sir Dyce Duckworth: Medicine. 4.30 P.M., Mr. R. Lake: Ear and Throat. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Ear and Throat. 2.15 P.M. Special Lecture:—Mr. Turner: Surgical Conditions of Veins.
TUESDAY.—2 P.M., Operations. 2.15 P.M., Dr. R. Wells: Medicine. 3.15 P.M., Mr. R. Carling: Surgery. 4.15 P.M., Sir M. Morris: Diseases of the Skin. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin.
WEDNESDAY.—2 P.M., Operations. 2.15 P.M., Dr. F. Taylor: Medicine. 3.30 P.M., Mr. Cargill: Ophthalmology. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 11 A.M., Eye. 3.30 P.M., Special Lecture:—Mr. Cargill: Optic Nerve Atrophy.
THURSDAY.—2 P.M., Operations. 2.15 P.M., Dr. G. Rankin: Medicine. 3.15 P.M., Sir W. Bennett: Surgery. 4.30 P.M., Radiography. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Ear and Throat. 2.15 P.M., Special Lecture:—Dr. Rankin: Cerebral Hæmorrhage.
FRIDAY.—2 P.M., Operations. 2.15 P.M., Dr. R. Bradford: Medicine. 3.15 P.M., Mr. McGavin: Surgery. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin.
SATURDAY.—2 P.M., Operations. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 11 A.M., Eye.

**HOSPITAL FOR SICK CHILDREN (UNIVERSITY OF LONDON), Great Ormond-street, W.C.**

TUESDAY.—5.15 P.M., Demonstration:—Mr. O. L. Addison: Diseases of Joints—General Considerations; Acute Infections; Pneumococcal, &c. (Special Post-Graduate Course.)
THURSDAY.—4 P.M., Mr. H. S. Collier: Diagnosis of the Surgical Abdominal Diseases of Childhood.
FRIDAY.—5.15 P.M., Demonstration:—Mr. O. L. Addison: Rheumatoid Arthritis, Hæmophilia, Perforating Injuries, Fractures. (Special Post-Graduate Course.)

**NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury, W.C.**

TUESDAY.—3.30 P.M., Clinical Lecture:—Mr. D. Armour: Sinus Thrombosis.
FRIDAY.—3.30 P.M., Clinical Lecture:—Dr. Ormerod: Tabes.

**HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton, S.W.**

WEDNESDAY.—4 P.M., Lecture:—Dr. Fenton: Aneurysm.

UNIVERSITY OF LONDON (UNIVERSITY COLLEGE), Institute of Physiology.

FRIDAY.—4.30 P.M., Dr. W. M. Bayliss: The Mechanism of Oxidation in Plants and Animals. (Lecture II.)

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN, 49, Leicester-square, W.C.

TUESDAY.—5 P.M., Mr. W. Hampson: Electric Currents—Chemical Action. (Post-Graduate Lecture.)

THURSDAY.—5 P.M., Dr. M. Dockrell: Some Phases of Eczema and their Treatment. (Post-Graduate Lecture.)

ANCOATS HOSPITAL, Manchester.

THURSDAY.—4.15 P.M., Mr. E. S. Bishop: Cholelithiasis (Post-Graduate Clinic.)

## OPERATIONS.

### METROPOLITAN HOSPITALS.

**MONDAY** (8th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M.), St. Mark's (2.30 P.M.), Central London Throat and Ear (Minor 9 A.M., Major 2 P.M.).

**TUESDAY** (9th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M., Ophthalmic, 2 P.M.), Tottenham (2.30 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.), Royal National Orthopædic (9.30 A.M. and 4 P.M.).

**WEDNESDAY** (10th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M., Dental, 2 P.M.), Tottenham (Ophthalmic, 2.30 P.M.), West London (2.30 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

**THURSDAY** (11th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal National Orthopædic (9 A.M. and 3.30 P.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M.), Tottenham (Gynæcological, 2.30 P.M.), West London (2.30 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

**FRIDAY** (12th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Royal National Orthopædic (3.30 P.M.), Soho-square (2 P.M.), Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), Tottenham (2.30 P.M.), St. Peter's (2 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

**SATURDAY** (13th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 A.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M.), West London (2.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic (2 P.M.) Hospitals operations are performed daily.

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*Lectures, original articles, and reports should be written on one side of the paper only,* AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

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## METEOROLOGICAL READINGS.

*(Taken daily at 8.30 a.m. by Steward's Instruments.)*

THE LANCET Office, May 3rd, 1911.

| Date. | Barometer reduced to Sea Level and 32° F. | Direction of Wind. | Rain fall. | Solar Radio in Vacuo. | Maximum Temp. Shade. | Min. Temp. | Wet Bulb. | Dry Bulb. | Remarks. |
|---|---|---|---|---|---|---|---|---|---|
| April 27 | 29·51 | S.W. | 0·23 | 96 | 60 | 44 | 47 | 48 | Raining |
| ,, 28 | 29·56 | W. | 0·04 | 106 | 61 | 48 | 49 | 52 | Cloudy |
| ,, 29 | 29·37 | W. | 0·20 | 108 | 54 | 44 | 46 | 49 | Cloudy |
| ,, 30 | 29·53 | W. | 0·07 | 97 | 58 | 45 | 47 | 50 | Cloudy |
| May 1 | 30·01 | N.W. | 0·01 | 112 | 63 | 45 | 46 | 51 | Cloudy |
| ,, 2 | 29·92 | S.W. | ... | 90 | 57 | 50 | 48 | 52 | Cloudy |
| ,, 3 | 29·90 | S.W. | 0·17 | 103 | 57 | 43 | 46 | 50 | Cloudy |

**The following journals, magazines, &c., have been received:**—Critic and Guide, Bulletin of the Manila Medical Society, Quinzaine Thérapeutique, Philippine Journal of Science, South African Medical Record, Transvaal Medical Journal, Annual Report of the Manila Bureau of Science, Indian Medical Gazette, Indian Public Health, Annales de l'Institut Pasteur, Australasian Medical Gazette, Archives of Pediatrics, Archives of Internal Medicine, Century Magazine, Australian Medical Journal, China Medical Journal, Revista Medica del Uruguay, University College Hospital Magazine, Journal of the Royal Sanitary Institute, Therapeutic Gazette, British Journal of Dental Science, Polyclinic, Centralblatt für Allgemeine Pathologie und Pathologische Anatomie, Practitioner.

## Communications, Letters, &c., have been received from—

A.—Messrs. Arnold and Sons, Lond.; American Society of Tropical Medicine, Philadelphia, Secretary of; Alliance of Honour, Lond., Secretaries of; Dr. J. E. Adams, Lond.; Alexandra Nursing Institute, Lond.; Messrs. Allen and Hanburys, Lond.; Ardath Tobacco Co., Lond.; Anglo-American Pharmaceutical Co., Croydon; Mr. A. Ayres, Reading; Acre-lane (52a), Brixton.

B.—Mr. T. B. Browne, Lond.; Berry White Medical School, Didrugarh, India, Superintendent of; Mr. W. Rowley Bristow, Lond.; Mr. B. Stanmore Bishop, Manchester; Messrs. C. T. Brock and Co., Lond.; Dr. J. J. Boyd, Pretoria; Mr. J. Ballantine, Edinburgh; British Medical Benevolent Fund, Lond., Hon. Secretary of; Messrs. W. H. Bailey and Son, Lond.; Messrs. Butterworth and Co., Lond.; Mr. E. Baker, Birmingham; Dr. W. P. S. Branson, Lond.; Booth Steamship Co., Lond.; Dr. Barnardo's Homes, Lond.; Mr. Francis Brachi, Southsea; Mr. C. W. Brodribb, Lond.; Messrs. Battle and Co., Lond.; Birmingham and Midland Hospital for Skin, &c., Diseases, Secretary of; Mr. G. F. Blake, Dublin; Dr. Andrew Balfour, Khartoum.

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D.—Messrs. W. Dawson and Sons, Lond.; D. F. E.; Messrs. H. Day and Co., Worcester; Dr. J. K. Dorsey, Wichita, U.S.A.

E.—East Suffolk County Education Committee, School Medical Officer of; Ebbw Vale Workmen's Doctors' Fund, Secretary of; E. H. M.

F.—Dr. R. Fortescue Fox, Lond.; Fine Art Society, Lond.; Factory Girls' Country Holiday Fund, Lond.; Professor Edward Fawcett, Bristol; Mr. B. F. Falkner, Aylesford; Messrs. Fannin and Co., Dublin; F. R. H. M.; Rev. W. O. Parker Ford, Bedford; Dr. N. S. Finzi, Lond.; Mr. Gerald Friend, Lond.; Dr. Field Hall, Lond.

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H.—Dr. W. Jobson Horne, Lond.; Mr. E. C. von Helfenstein, Philadelphia; H. C. S. W.; Captain G. W. G. Hughes, R.A.M.C., Abassieh; Hove Borough Education Committee; Dr. A. P. Hertz, Lond.; "Hector," Billingshurst; Hospital for Women and Children, Leeds, Secretary of; Messrs. W. Hodge and Co., Edinburgh; Dr. G. Hamel, Lond.; Dr. A. Hawkyard, Leeds; Messrs. Hastings Bros., Lond.

I.—Illinois State Charities Commission, Springfield, U.S.A.; Ingham Infirmary and South Shields and Westoe Dispensary, Secretary of; Invalid Children's Aid Association, Lond.

J.—Major S. P. James, I.M.S., Simla; J. M. H.

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